DOCUMENT RESUME

ED 188 900 SE 031 208

TITLE	CSMP Mathematics for the Upper Primary Grades, Part IV, Student Materials: Worksheets; Galaxy of Problems 1, 2, 3, 4: Fishing for Numbers, Part IV: To Picture: Subtraction Problems.
INSTITUTION	Central Midwestern Regional Educational Lab., St. Ann, Mo.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	79
NOTE	337p.: For related documents, see SE 031 204-210 and ED 175 634-652. Not available in hard copy due to copyright restrictions. Contains colored charts and activities which may not reproduce well.
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Addition: Algorithms: *Drills (Practice): Elementary Education: *Elementary School Mathematics: Geometric Concepts: *Grade 3: Mathematics Curriculum: Mathematics Instruction: *Mathematics Materials: Measurement: Multiplication: *Number Concepts: Subtraction: *Worksheets
IDENTIFIERS	*Comprehensive School Mathematics Program

ABSTRACT

These are some of the individual materials needed by students using the Comprehensive School Mathematics Program for the Upper Primary Grades, Part IV. The book of "Worksheets" contains materials that are labeled with the same letter and number as the lessons with which they are to be used. The four "Galaxy of Problems" booklets include exercises on addition and subtraction as well as practice with the Papy "minicomputer." The "Fishing for Numbers" and "Subtraction Problems" booklets also provide practice on whole number operations as well as work with geometric and measurement concepts. "To Picture" is a story-workbook which allows students to take a fanciful excursion in the world of numbers that actively involves the student in the acquisition of new mathematical insights. (Author/MK)

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CSMP Mathematics for the Upper Primary Grades
Part IV

SE

Worksheets

omprehensive School Mathematics Program
CEMREL, Inc.
Final Experimental Version
3-44301

Name

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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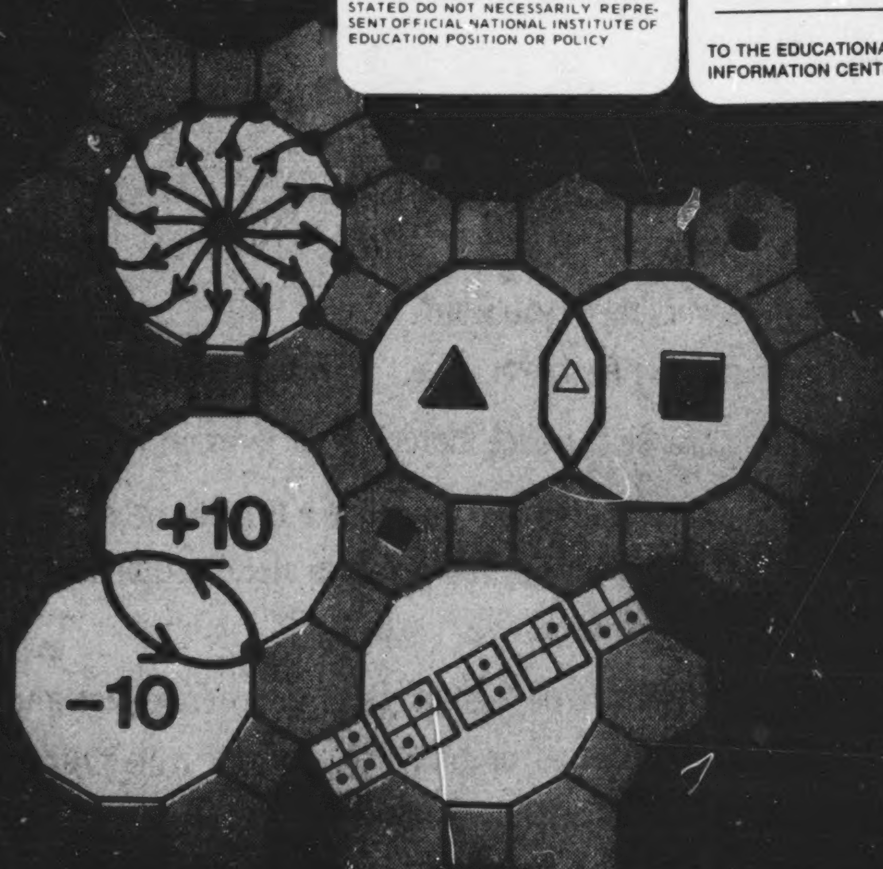

SE 031 208

WHAT'S IN THIS BOOK?

This book contains all the worksheets you will need for Part IV of the CSMP Upper Primary Grades Curriculum. Worksheets are labeled with the same letter and number as the lessons with which they are used. In this book, they are in the following order:

1)	All the "N" worksheets:	N1* through N34****
2)	All the "L" worksheets:	L2* through L17**
3)	All the "G" worksheets:	G1 through G13****
4)	All the "W" worksheets:	W3* through W17

HOW DO YOU REMOVE PAGES?

Step 1: Find the worksheet you want.
The number of each worksheet is in the top right corner of the page.

Step 2: Fold and crease the page along the perforation line.

Step 3: With your left hand index finger and thumb, press book firmly down left of the perforation line and along center fold, starting at the top of the book.

Step 4: With your right hand, hold top right corner of page and tear along the perforation line. Follow the tear with your left hand holding down center fold of book.

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Comprehensive School Mathematics Program
3120 59th Street, St. Louis, Mo. 63139

Name ______________________________ **N 1** *

Pair names for the same number. Two are paired for you.

$436 + \widehat{10}$

$268 + \widehat{20}$

$186 + \widehat{4}$

$467 + \widehat{41}$

$348 + \widehat{100}$

$192 + \widehat{10}$

$294 + \widehat{80}$

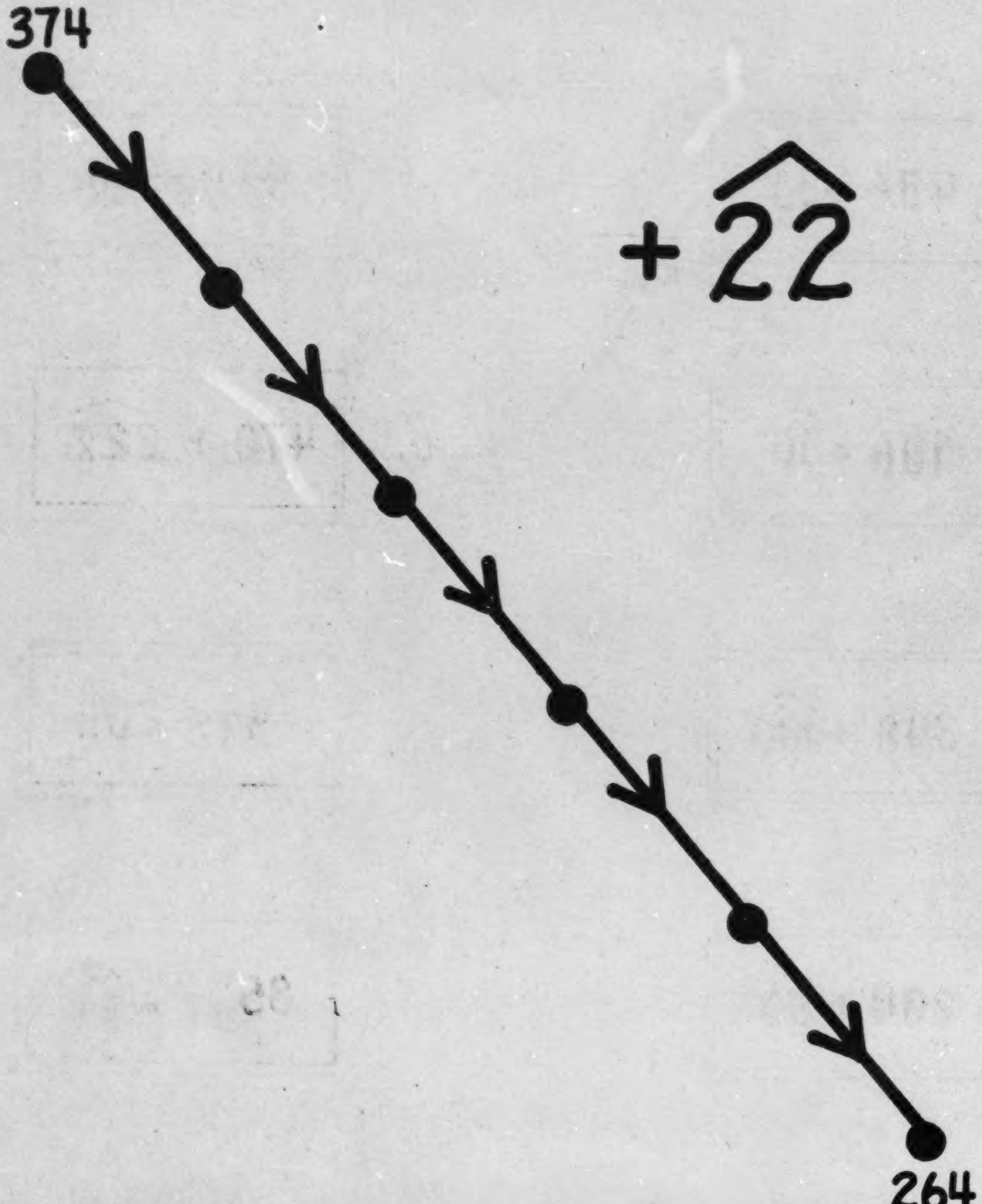
$217 + \widehat{3}$

MAY 1 6 1980

Name ______________________

N 1 **

Label the dots.



Name ______________________________

N 1 ***

Pair names for the same number.

$190 + \widehat{8}$

$506 + \widehat{80}$

$111 + \widehat{82}$

$1{,}050 + \widehat{802}$

$474 + \widehat{48}$

$470 + \widehat{222}$

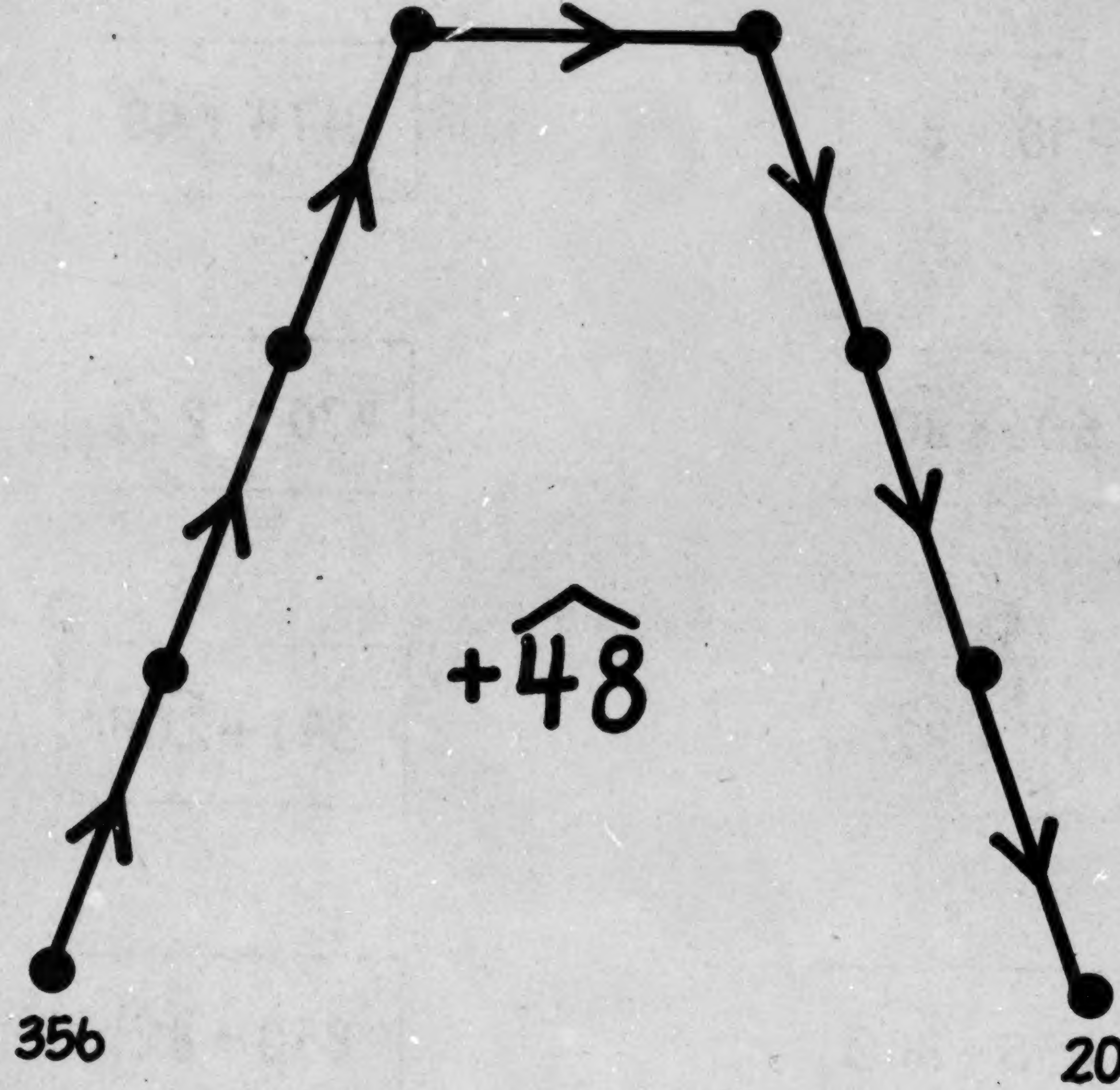
$391 + \widehat{209}$

$850 + \widehat{821}$

Name ______________________

N 1 ****

Label the dots.



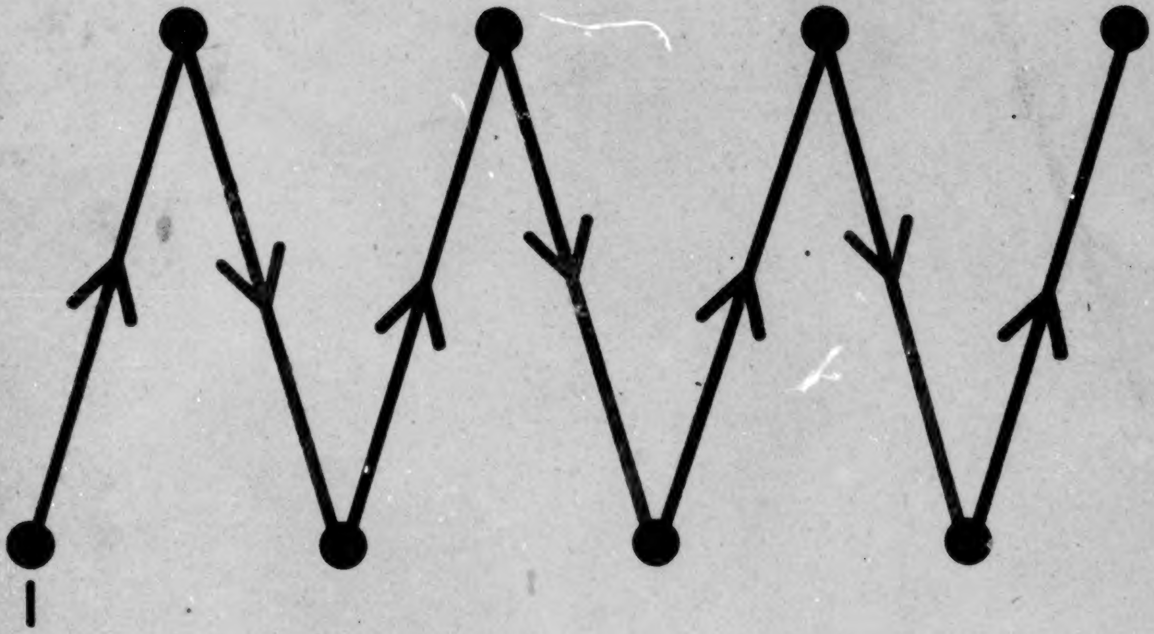
Name ______________________

N 2 *

Label the dots.

Draw all the possible 6x arrows in green.

3× 2× 6×

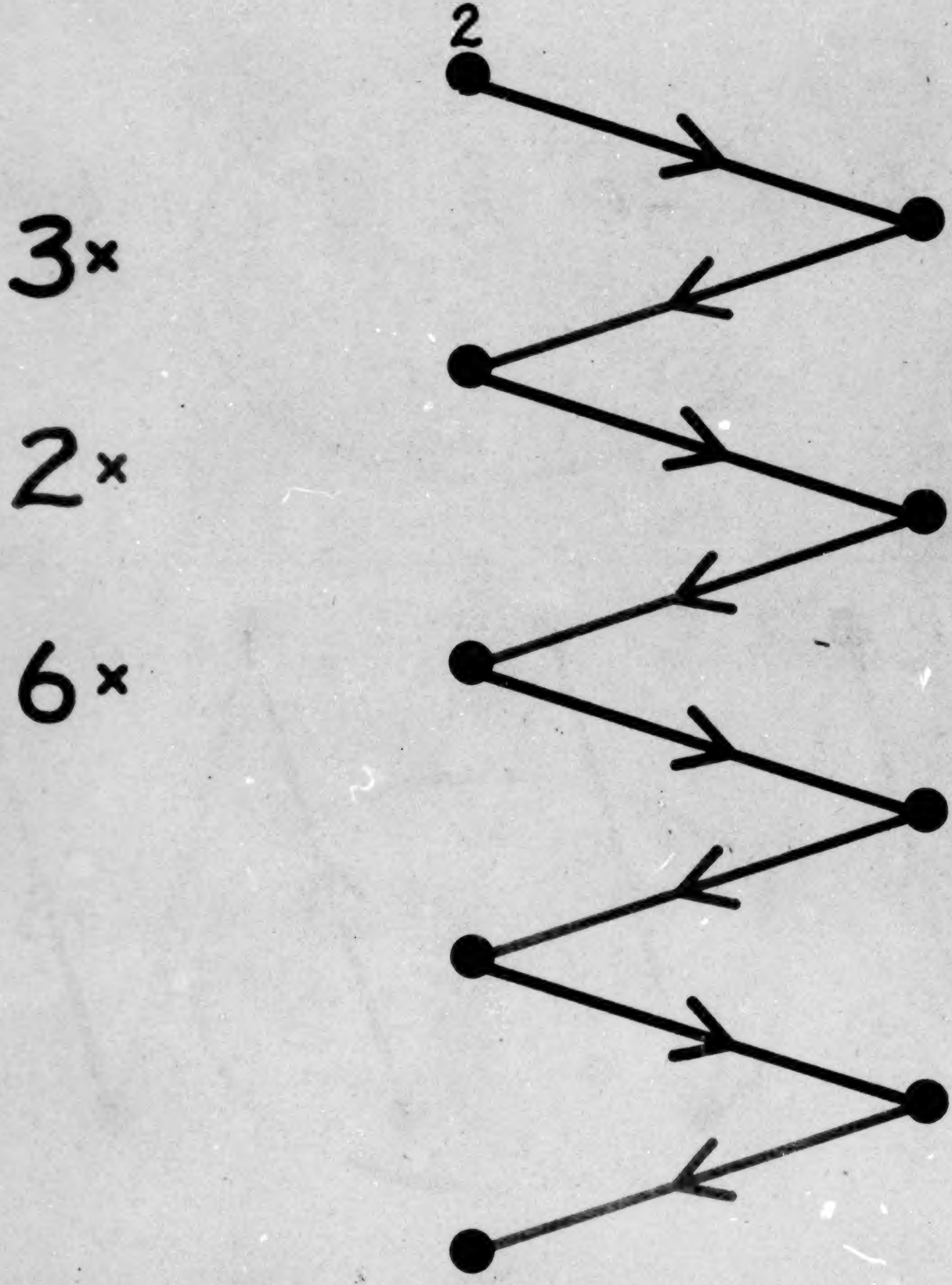


Name ______________________

N 2 **

Label the dots.

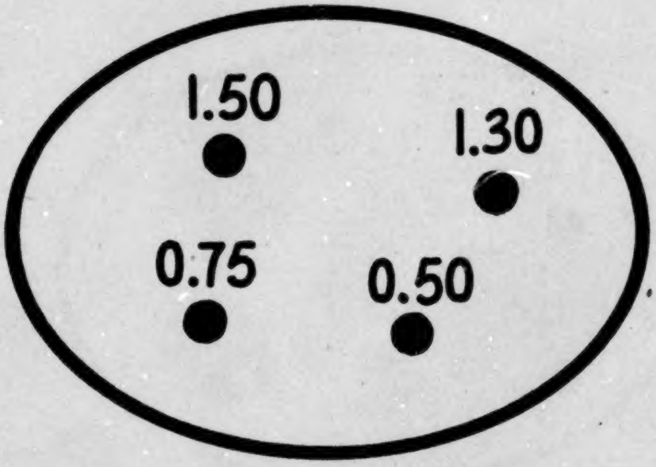
Draw all the possible 6x arrows in green.



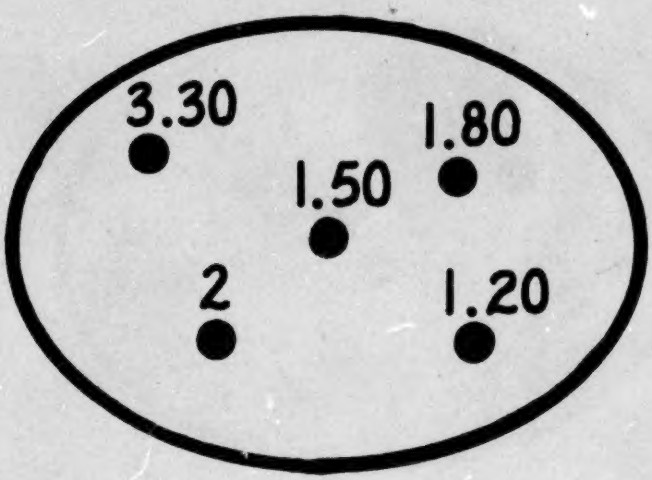
Name ______________________

N 3 *

Carmen buys two different games and spends exactly $2.
Draw one string around the prices of these two games.


1.50
1.30
0.75
0.50

Anthony buys two different books and spends exactly $3.
Draw one string around the prices of these two books.

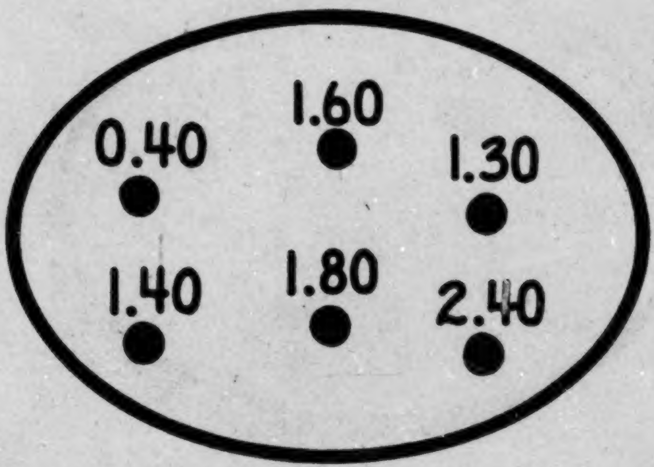

3.30
1.80
1.50
2
1.20

Name ____________________

N3 **

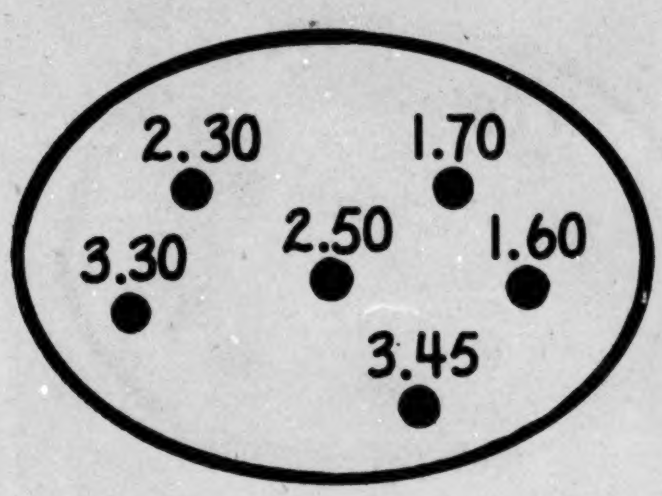
William buys two different magic tricks and spends exactly $3.

Draw one string around the prices of these two magic tricks.


1.60
0.40
1.30
1.40
1.80
2.40

Sharon buys two different paint sets and spends exactly $5.

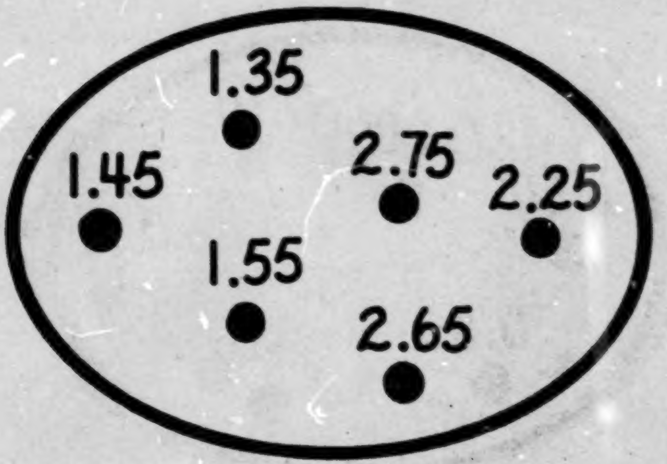
Draw one string around the prices of these two paint sets.


2.30
1.70
2.50
3.30
1.60
3.45

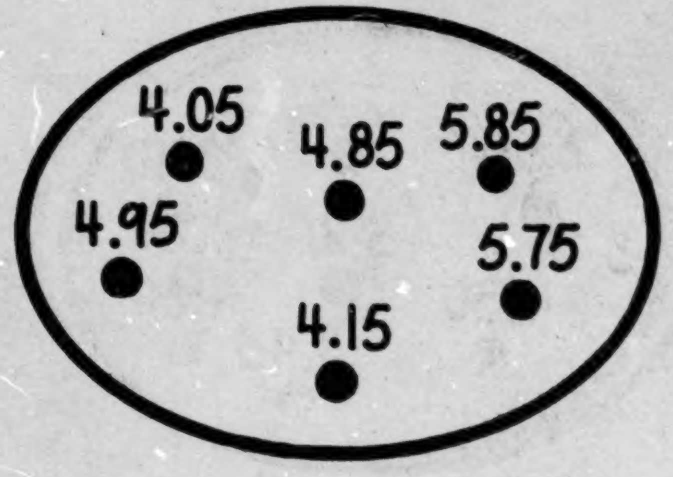
Name ________________________

N 3 ***

Elizabeth buys two different scarfs and spends exactly $4.
Draw one string around the prices of these two scarfs.


1.35
1.45
2.75
2.25
1.55
2.65

Scott buys two different hats and spends exactly $10.
Draw one string around the prices of these two hats.

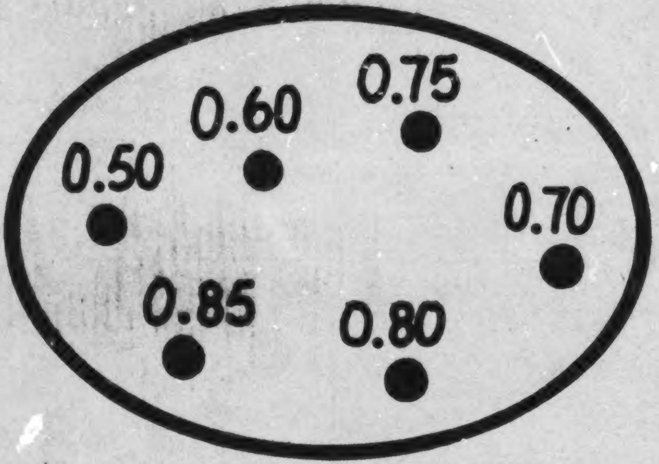

4.05
4.85
5.85
4.95
5.75
4.15

Name ____________________

N 3 ********

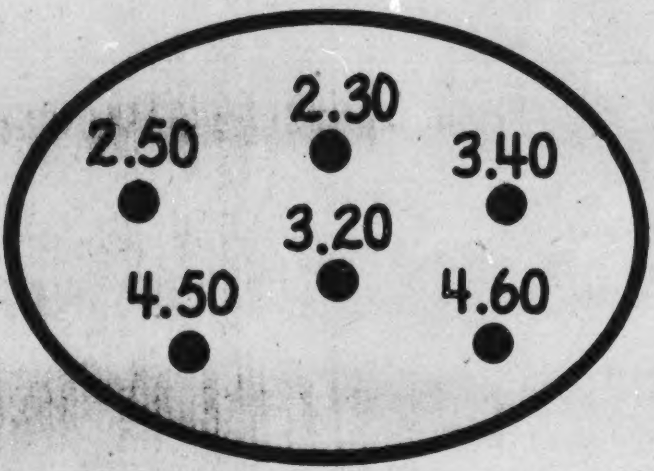
Pat buys three different whistles and spends exactly $2.

Draw one string around the prices of these three whistles.


0.75
0.60
0.50
0.70
0.85
0.80

Elliot buys three different records and spends exactly $10.

Draw one string around the prices of these three records.


2.30
2.50
3.40
3.20
4.50
4.60

Name ________________________ **N 5** *

Complete.

$\frac{1}{2} \times 10 =$ ______

$\frac{1}{2} \times 14 =$ ______

$\frac{1}{2} \times 12 =$ ______

$\frac{1}{2} \times 18 =$ ______

$\frac{1}{2} \times 20 =$ ______

$\frac{1}{2} \times 26 =$ ______

$\frac{1}{2} \times 40 =$ ______

$\frac{1}{2} \times 48 =$ ______

$\frac{1}{2} \times 50 =$ ______

$\frac{1}{2} \times 52 =$ ______

$\frac{1}{2} \times 30 =$ ______

$\frac{1}{2} \times 36 =$ ______

$\frac{1}{2} \times 100 =$ ______

$\frac{1}{2} \times 120 =$ ______

$\frac{1}{2} \times 124 =$ ______

$\frac{1}{2} \times 130 =$ ______

Name ______________________

N 5 **

Complete.

$\frac{1}{3} \times 30 =$ ______

$\frac{1}{3} \times 36 =$ ______

$\frac{1}{3} \times 90 =$ ______

$\frac{1}{3} \times 99 =$ ______

$\frac{1}{3} \times 45 =$ ______

$\frac{1}{3} \times 105 =$ ______

$\frac{1}{3} \times 120 =$ ______

$\frac{1}{3} \times 117 =$ ______

$\frac{1}{2} \times 5 = 2.50$

$\frac{1}{2} \times 25 =$ ______

$\frac{1}{2} \times 45 =$ ______

$\frac{1}{2} \times 51 =$ ______

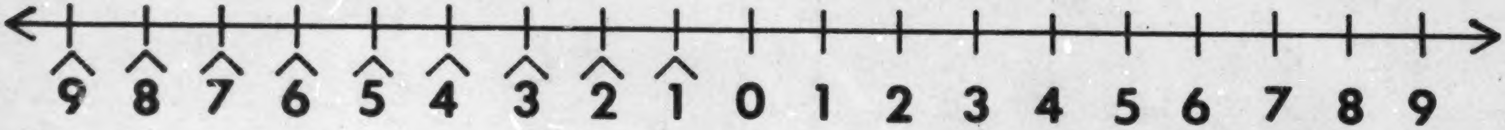
$\frac{1}{2} \times 6.40 =$ ______

$\frac{1}{2} \times 3.00 =$ ______

$\frac{1}{2} \times 0.52 =$ ______

$\frac{1}{2} \times 3.52 =$ ______

Name ____________________



9̂ 8̂ 7̂ 6̂ 5̂ 4̂ 3̂ 2̂ 1̂ 0 1 2 3 4 5 6 7 8 9

Complete.

5	2	7	6	4	5	3	6
−2	−5	−6	−7	−5	−4	−6	−3

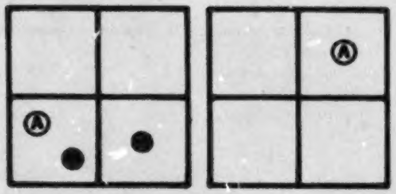
8	1	0	4	9	7	8	2
−1	−8	−4	−0	−7	−9	−2	−8

N7

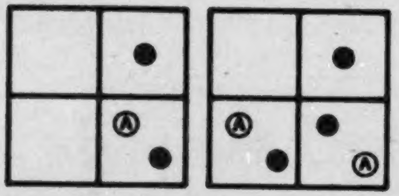
*

Name ______________________________

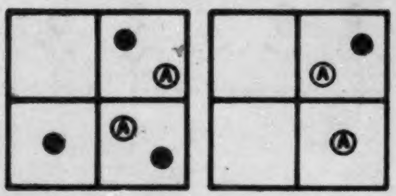
Complete.



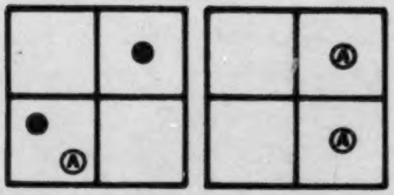
$$\begin{array}{r} 30 \\ -24 \\ \hline \end{array}$$



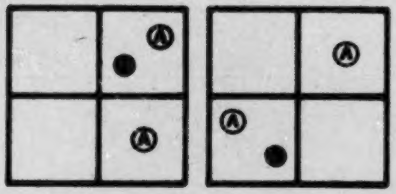
$$\begin{array}{r} 57 \\ -13 \\ \hline \end{array}$$



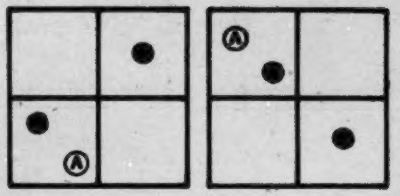
$$\begin{array}{r} 74 \\ -55 \\ \hline \end{array}$$



$$\begin{array}{r} 60 \\ -25 \\ \hline \end{array}$$



$$\begin{array}{r} 42 \\ -56 \\ \hline \end{array}$$

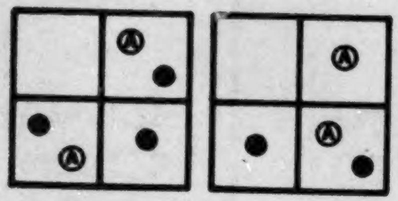


$$\begin{array}{r} 69 \\ -28 \\ \hline \end{array}$$

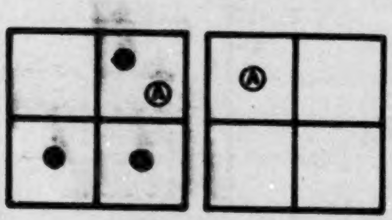
N 7 **

Name

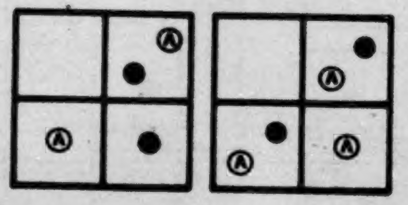
Complete.



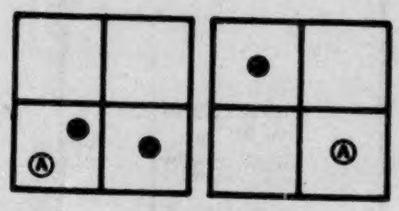
73
− 65



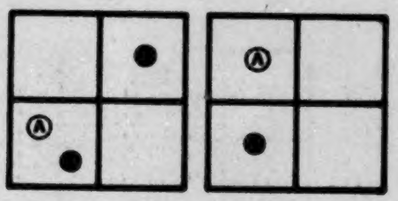
70
− 48



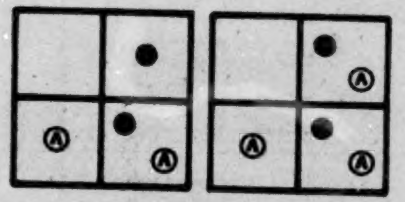
56
− 67



38
− 21



62
− 28

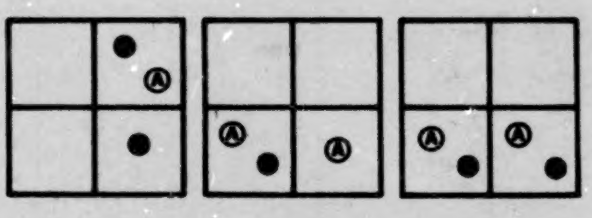


55
− 37

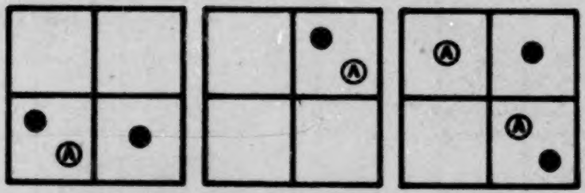
N7 ***

Name ______________________

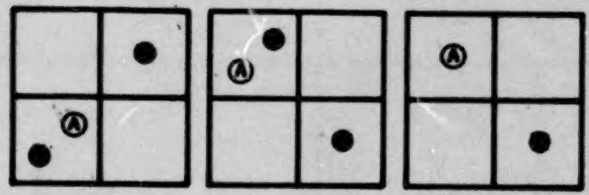
N7 **



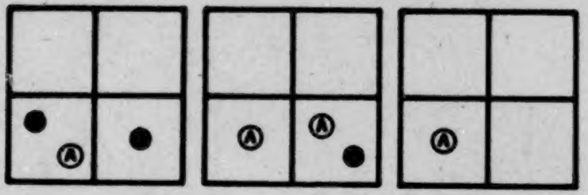
 523
− 433



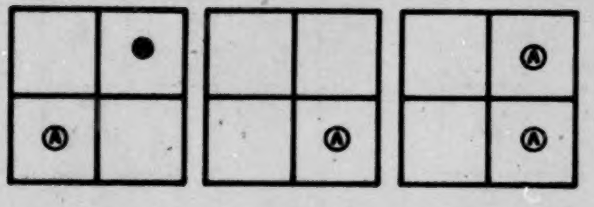
 345
− 249



 691
− 288



 310
− 232



 400
− 215

Name ______________________ N 8 *

2x +1 -1

Build a red-blue-green road between 5 and 16. Try to use as few arrows as possible.

●16

5●

Name ______________________

N 8 **

2x +1 −1

Build a red-blue-green road between these pairs of numbers. Try to use as few arrows as possible.

9 ●

● 31

● 50

11 ●

Name ________________________

N 8 ***

2x +1 -1

Build a red-blue-green road between these pairs of numbers. Try to use as few arrows as possible.

●100

20●

7●

●63

Name ____________________

N 8 ****

2x +1 -1

Build a red-blue-green road between these pairs of numbers. Try to use as few arrows as possible.

●13

88●

99●

●30

Name ____________________

N11 *

Complete.

8 − 5 = □

9 − 6 = □

10 − □ = 3

□ − 8 = 3

10 − 5 = □

12 − 7 = □

14 − □ = 5

□ − 11 = 5

7 − 8 = □

8 − 8 = □

□ − 8 = 1

10 − □ = 2

20 − 10 = □

30 − □ = 20

□ − 10 = 30

50 − □ = 40

Name ____________________ **N 11 ****

Complete.

$$\begin{array}{r}18\\-10\\\hline\end{array}\qquad\begin{array}{r}19\\-11\\\hline\end{array}\qquad\begin{array}{r}20\\-\square\\\hline 8\end{array}\qquad\begin{array}{r}\square\\-13\\\hline 8\end{array}$$

$$\begin{array}{r}42\\-21\\\hline\end{array}\qquad\begin{array}{r}41\\-\square\\\hline 20\end{array}\qquad\begin{array}{r}40\\-21\\\hline\end{array}\qquad\begin{array}{r}\square\\-21\\\hline 18\end{array}$$

$$\begin{array}{r}14\\-7\\\hline\end{array}\qquad\begin{array}{r}16\\-\square\\\hline 7\end{array}\qquad\begin{array}{r}\square\\-10\\\hline 7\end{array}\qquad\begin{array}{r}20\\-13\\\hline\end{array}$$

$$\begin{array}{r}13\\-8\\\hline\end{array}\qquad\begin{array}{r}23\\-18\\\hline\end{array}\qquad\begin{array}{r}33\\-28\\\hline\end{array}\qquad\begin{array}{r}43\\-38\\\hline\end{array}$$

Name ____________________

N 11 ***

Pair names for the same number.

36 - 24

72 - 49

47 - 20

99 - 56

70 - 29

73 - 50

75 - 34

100 - 57

40 - 28

44 - 17

Name ____________________

N 11 ****

Pair names for the same number.

86 − 35

71 − 18

100 − 66

95 − 66

81 − 45

85 − 49

80 − 46

90 − 39

91 − 38

88 − 59

Name ________________________________

N 12 *

Complete.

$\frac{1}{2} \times 20 =$ ______

$\frac{1}{2} \times 24 =$ ______

$\frac{1}{2} \times 40 =$ ______

$\frac{1}{2} \times 46 =$ ______

$60 \div 2 =$ ______

$68 \div 2 =$ ______

$80 \div 2 =$ ______

$82 \div 2 =$ ______

$\frac{1}{2} \times 50 =$ ______

$\frac{1}{2} \times 52 =$ ______

$\frac{1}{2} \times 54 =$ ______

$\frac{1}{2} \times 56 =$ ______

$30 \div 2 =$ ______

$32 \div 2 =$ ______

$34 \div 2 =$ ______

$36 \div 2 =$ ______

Name ______________________________

N 12 **

Complete.

$4 \div 2 =$ ________

$5 \div 2 =$ ________

$6 \div 2 =$ ________

$7 \div 2 =$ ________

$\frac{1}{2} \times 600 =$ ________

$\frac{1}{2} \times 640 =$ ________

$\frac{1}{2} \times 642 =$ ________

$\frac{1}{2} \times 650 =$ ________

$\frac{1}{2} \times 90 =$ ________

$\frac{1}{2} \times 94 =$ ________

$\frac{1}{2} \times 96 =$ ________

$\frac{1}{2} \times 95 =$ ________

$100 \div 2 =$ ________

$130 \div 2 =$ ________

$138 \div 2 =$ ________

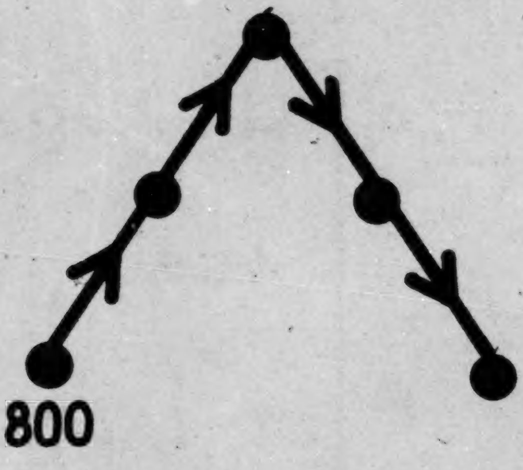
$139 \div 2 =$ ________

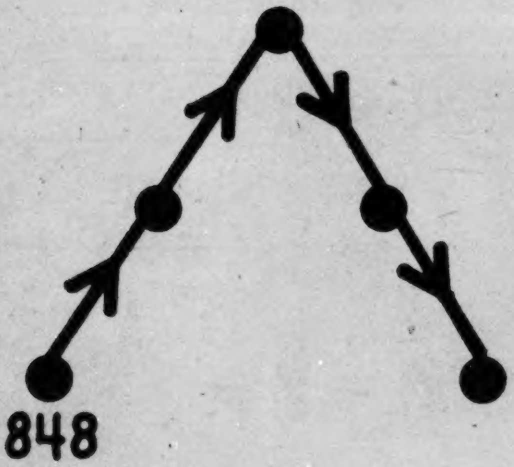
Name ______________________________________

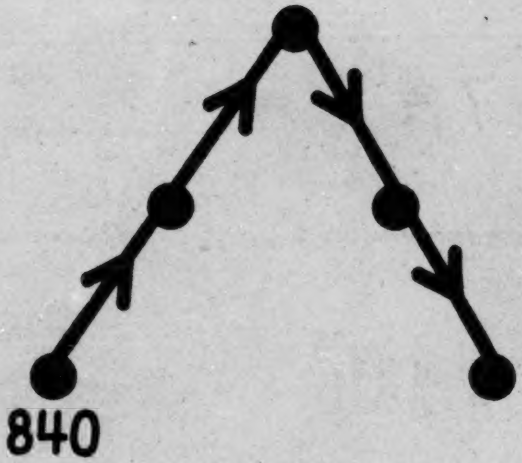
N 12 ***

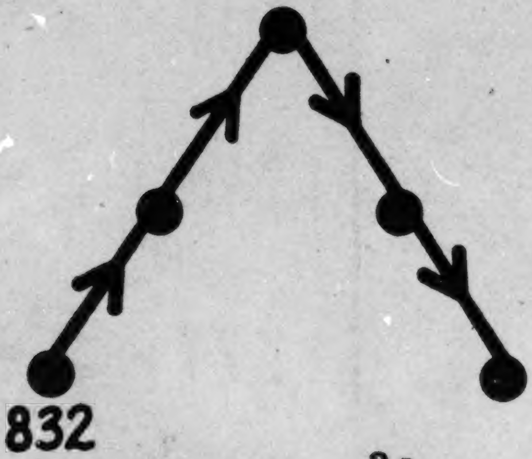
Label the dots.

$\frac{1}{2}$x









Name ______________________________

N 12 ****

Complete.

$\frac{1}{2} \times 500 =$ ________

$\frac{1}{2} \times 510 =$ ________

$\frac{1}{2} \times 300 =$ ________

$\frac{1}{2} \times 380 =$ ________

$900 \div 2 =$ ________

$948 \div 2 =$ ________

$916 \div 2 =$ ________

$974 \div 2 =$ ________

$\frac{1}{2} \times 1{,}000 =$ ________

$\frac{1}{2} \times 700 =$ ________

$\frac{1}{2} \times 36 =$ ________

$\frac{1}{2} \times 1{,}736 =$ ________

$1{,}800 \div 2 =$ ________

$1{,}798 \div 2 =$ ________

$1{,}776 \div 2 =$ ________

$1{,}777 \div 2 =$ ________

Name ______________________________

N 14 *

10×   +1   −1

Build a red-blue-green road between each pair of numbers.

Try to use as few arrows as possible.

2
●

53
●

3
●

24
●

Name ______________________________ **N 14** **

10× **+1** **−1**

Build a red-blue-green road between each pair of numbers.

Try to use as few arrows as possible.

8
●

115
●

14
●

108
●

Name ____________________

N 14 ***

10x **+1** **−1**

Build a red-blue-green road between each pair of numbers.

Try to use as few arrows as possible.

507
●

5
●

570
●

5
●

Name ______________________

N 14 ****

10× +1 −1

Build a red-blue-green road between each pair of numbers.

Try to use as few arrows as possible.

989
●

●7

12
●

●
1,084

Name ______________________________

N 18 *

Share 26 dollars fairly between Dick and Linda.

For Dick	For Linda

Write a number story about this sharing.

Share 27 pencils fairly among Andrea, Sheila, and Rob.

For Andrea	For Sheila	For Rob

Write a number story about this sharing.

Share 34 pennies fairly between Pat and Gary.

For Pat	For Gary

Write a number story about this sharing.

Share 54 dimes fairly among Bill, Stanley, and Lisa.

For Bill	For Stanley	For Lisa

Write a number story about this sharing.

Name ________________________

N 18 **

Share 114 pictures between Arthur and Maria.

For Arthur	For Maria

Write a number story about this sharing.

Share 81 candies among Nora, Brad, and Mark.

For Nora	For Brad	For Mark

Write a number story about this sharing.

Share 186 stamps fairly between Andy and Pam.

For Andy	For Pam

Write a number story about this sharing.

Share 129 marbles fairly among John, Ann, and Cathy.

For John	For Ann	For Cathy

Write a number story about this sharing.

Name ____________________

N 18 ***

Share 483 jacks fairly among Paula, Stacey, and Joy.

For Paula	For Stacey	For Joy

Write a number story for this sharing.

Share 735 cards among Wally, James, and Amy.

For Wally	For James	For Amy

Write a number story for this sharing.

Share 819 vegetable seeds among Mike, Ellen, and Eric.

For Mike	For Ellen	For Eric

Write a number story for this sharing.

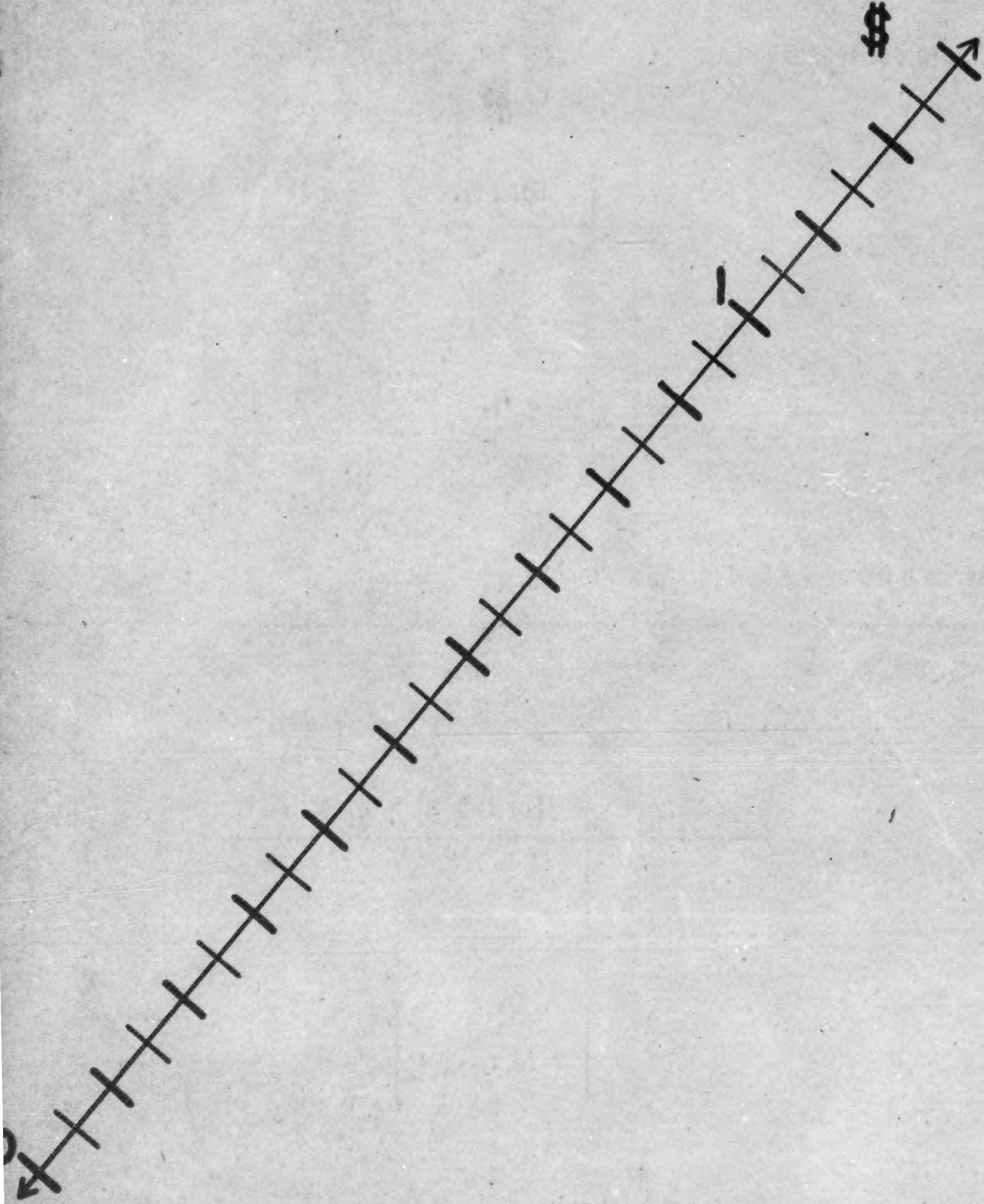
Share 1,932 books among Sandra, Leo, and Christy.

For Sandra	For Leo	For Christy

Write a number story for this sharing.

Name ______________________

N 19 *

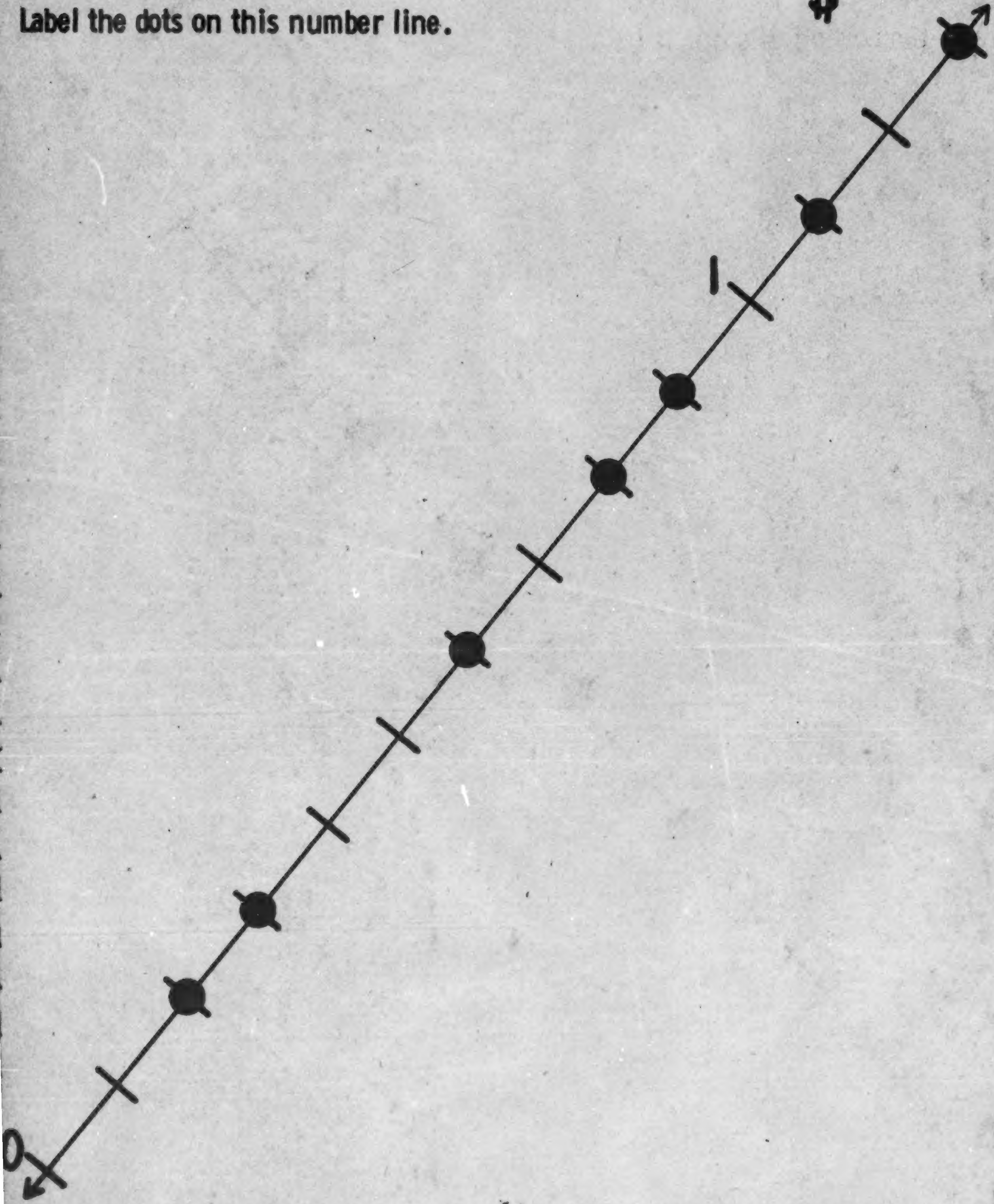


Name ______________________

N 19 **

$

Label the dots on this number line.

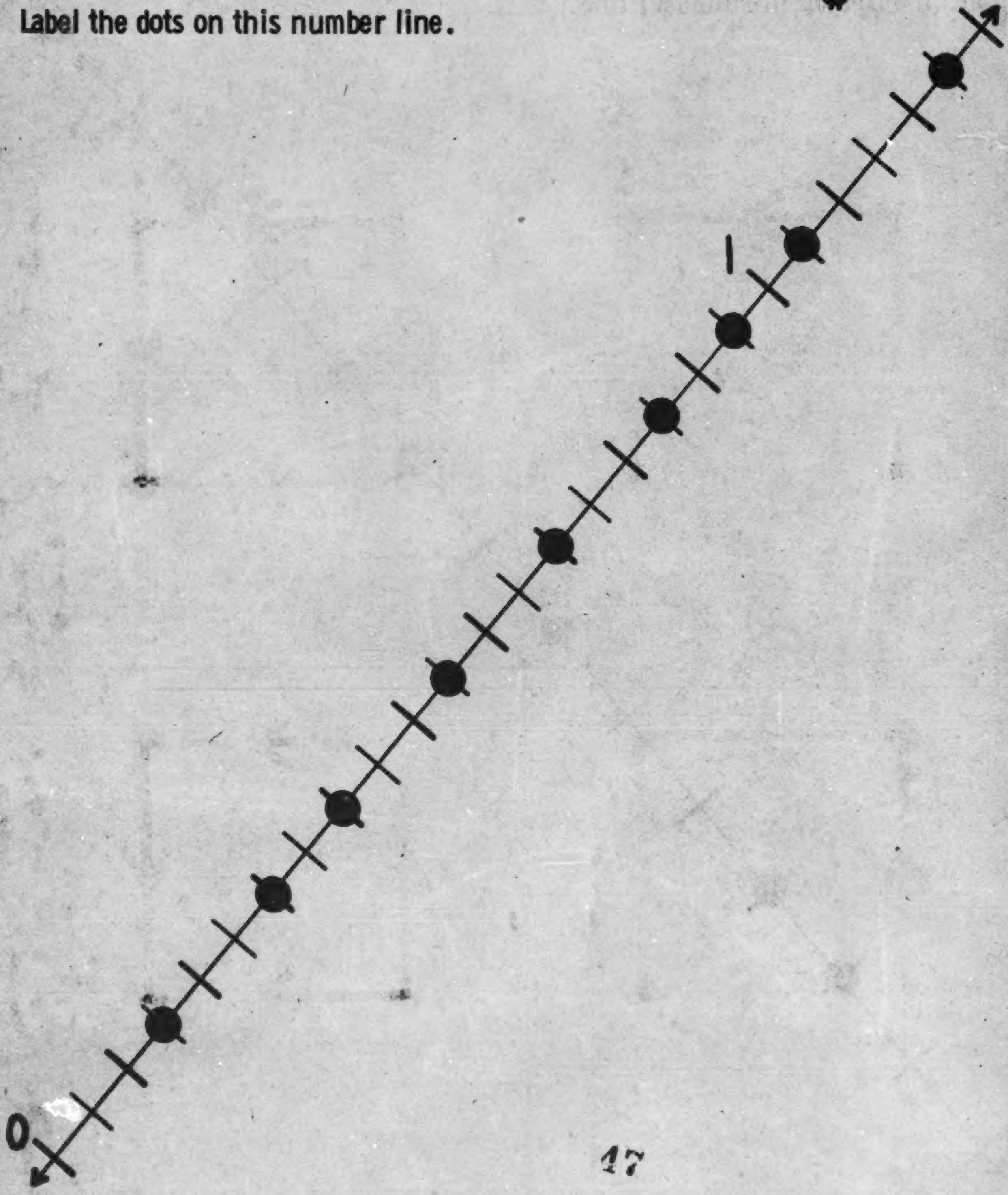


Name ____________________

N 19 ***

$

Label the dots on this number line.

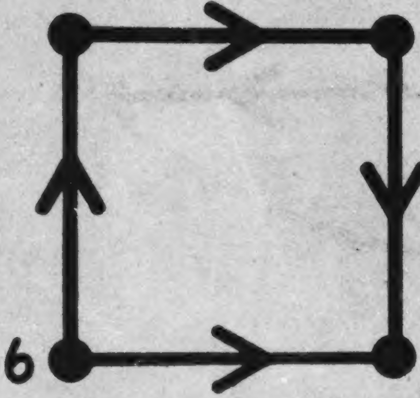


Name ______________________

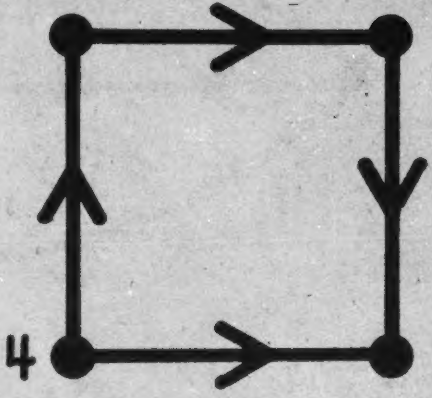
N 22 *

Label the dots and complete the number stories.

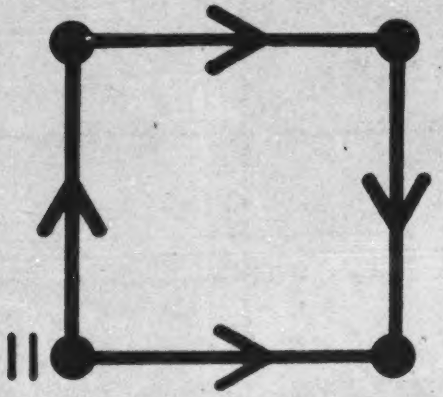
2× 8×



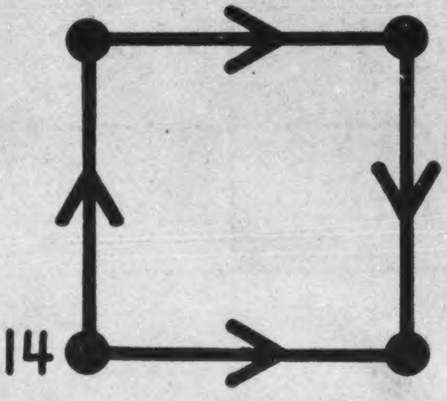
8×6= ____



8×4= ____



8×11= ____

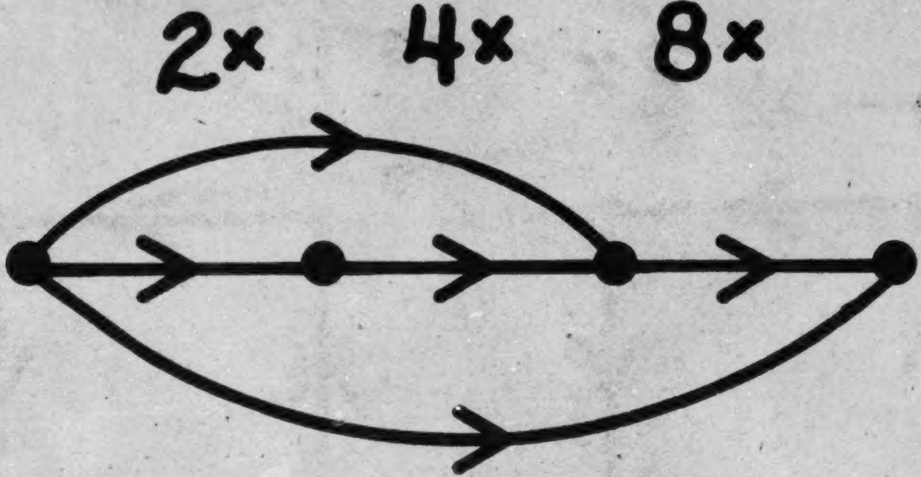


8×14= ____

Name ____________________

N 22 **

Complete this table.

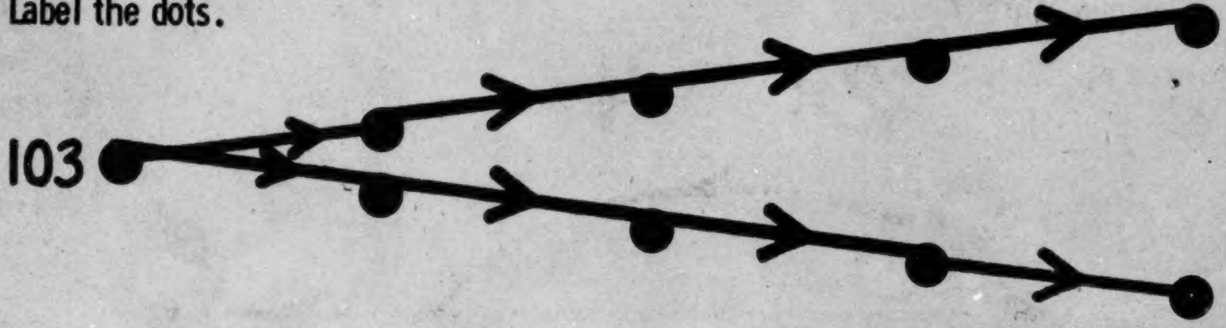


Starting Number	2x	4x	8x
9			
17			
23			
38			
47			

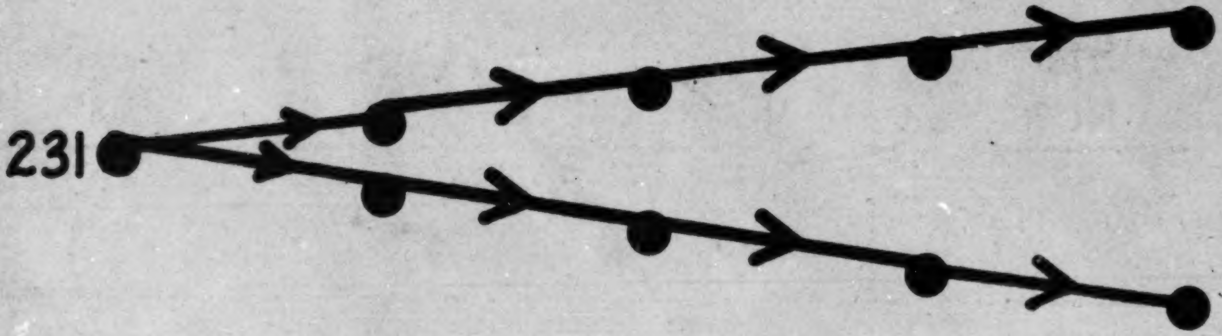
Name ______________________

N 22 ***

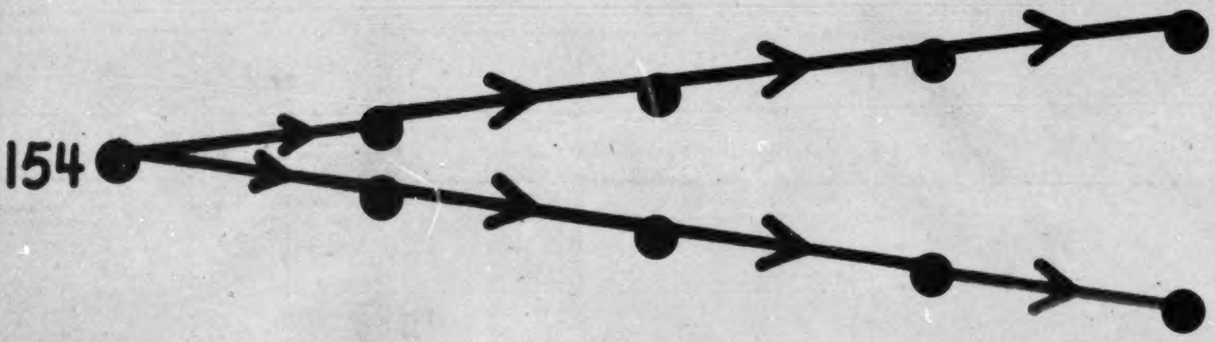
Label the dots.



+10



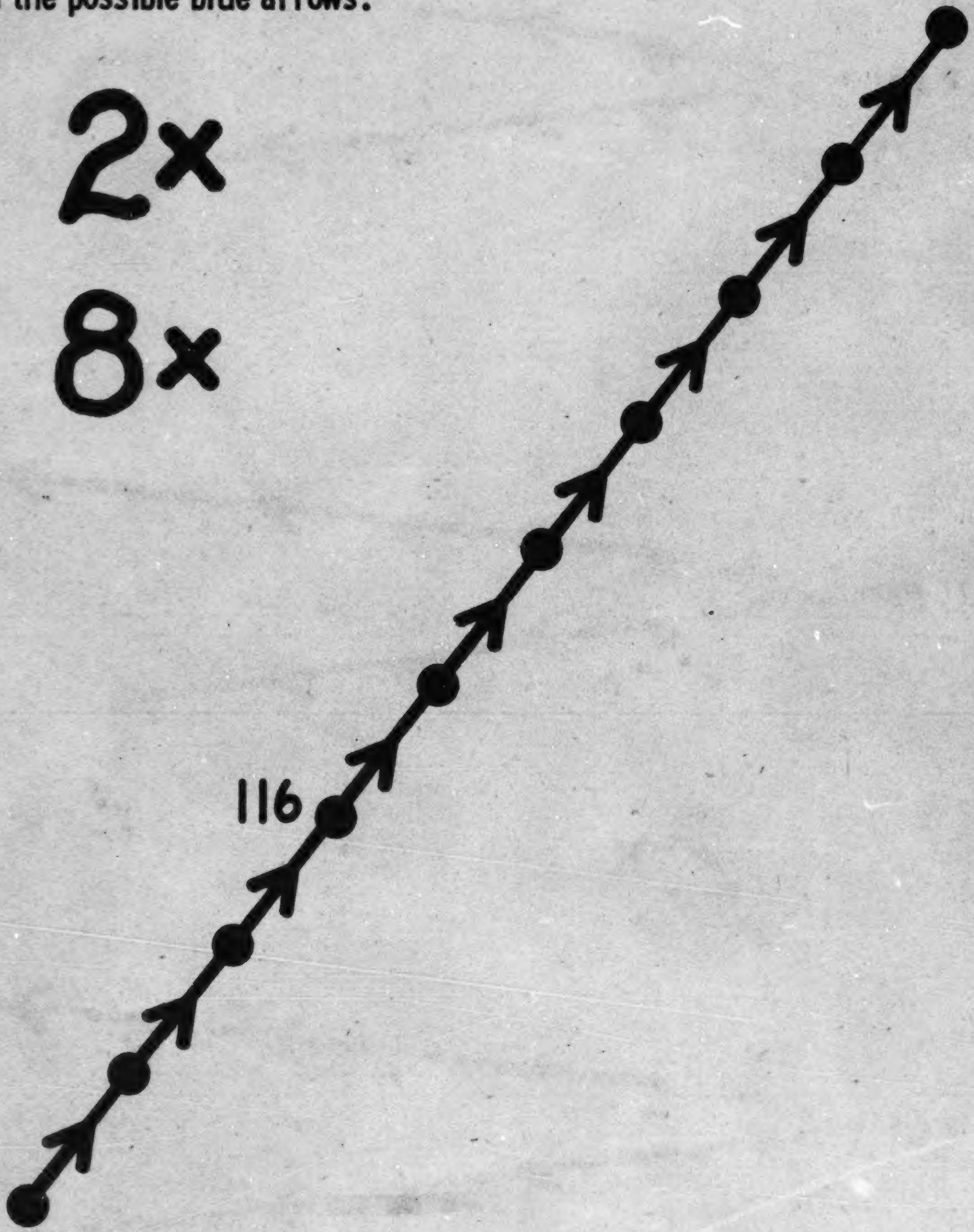
2x



Name ____________________________________ **N 22 ******

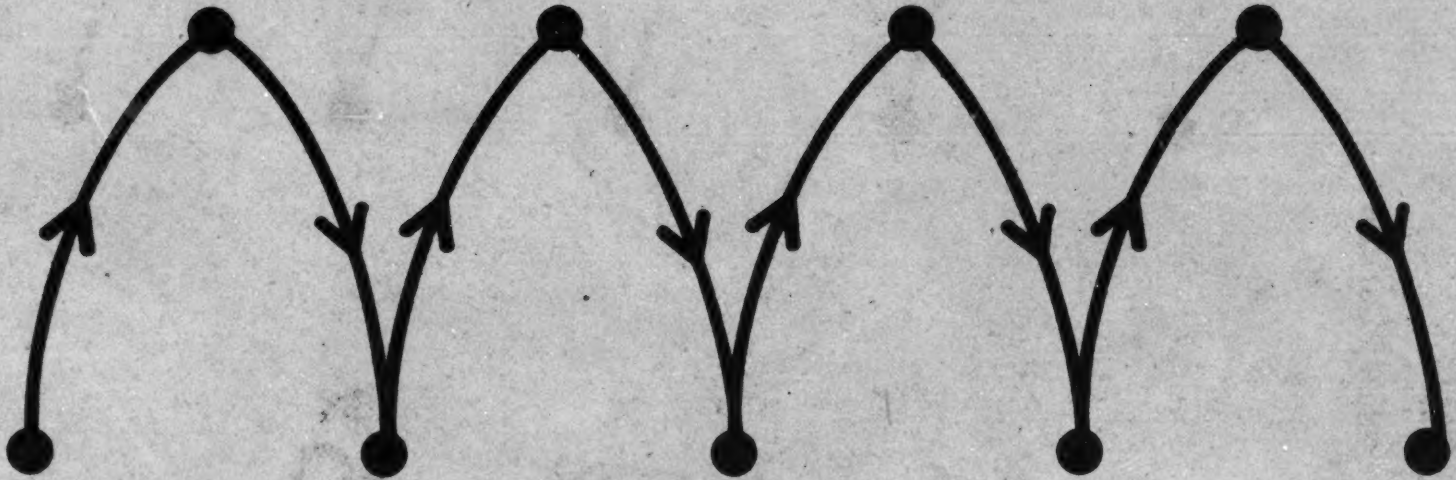
Label the dots.

Draw all the possible blue arrows.



Name ______________________________

10× $\frac{1}{2}$×   5×

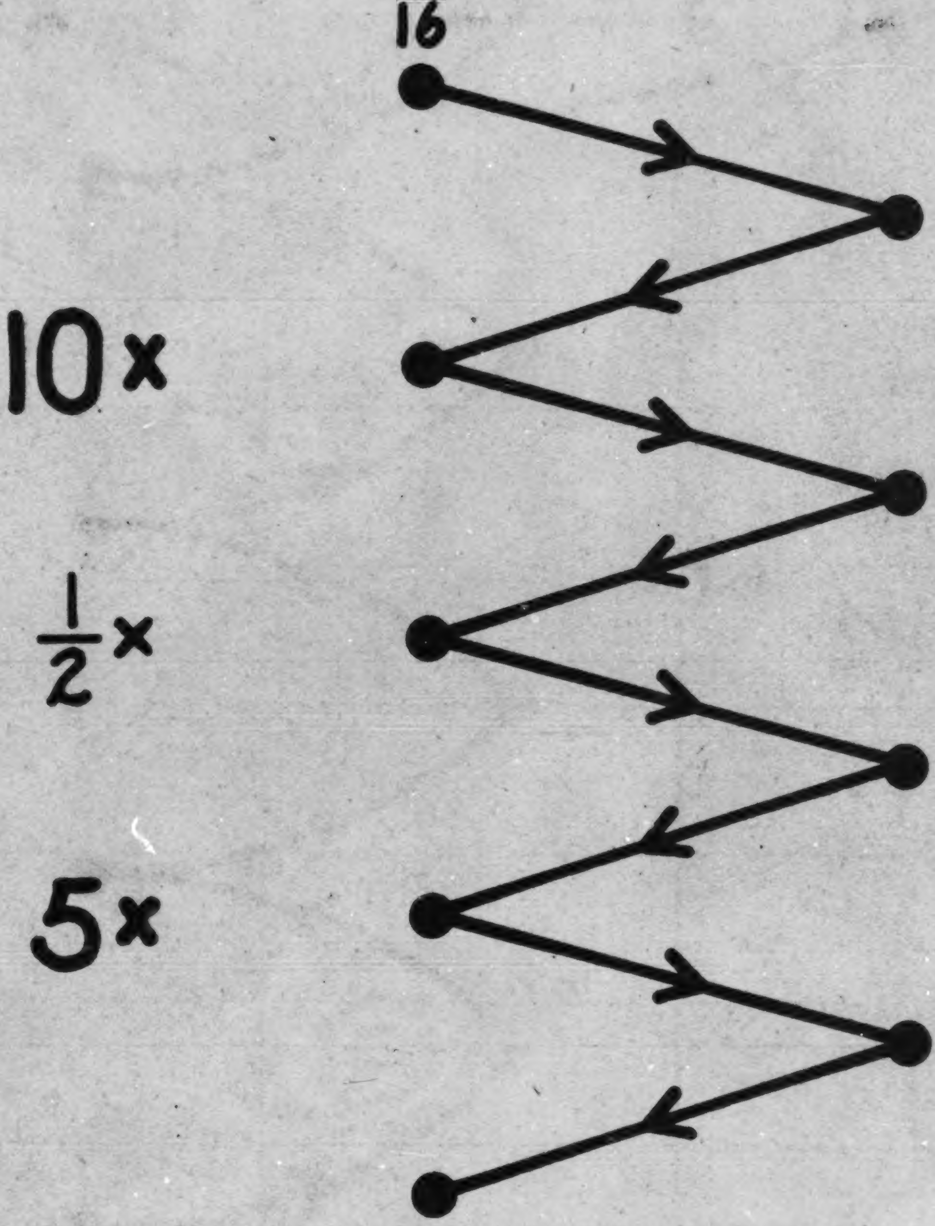


N 24 *

Name ______________________ **N 24** **

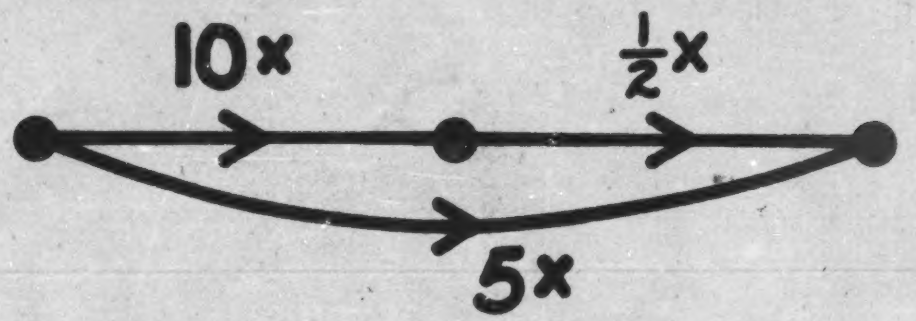
Label the dots.

Draw all the possible 5 x arrows.


16
10x
$\frac{1}{2}$x
5x

Name ______________________________ **N 24 *****

Complete this table.



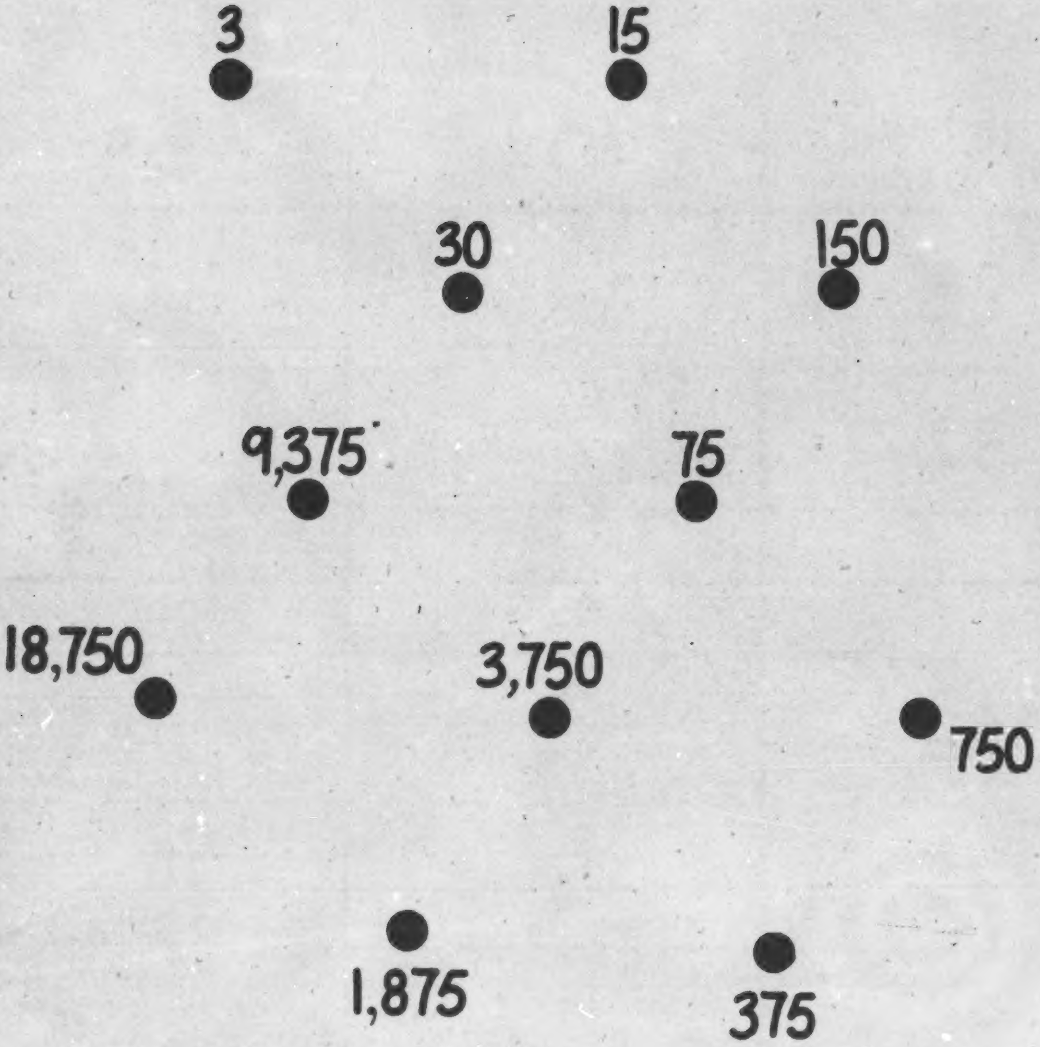
Starting Number	10x	5x
25		
82		
41		
63		
85		
94		

Name ________________________________

N 24 ****

Draw all the possible 10 x, 5 x, and $\frac{1}{2}$ x arrows.

10x   5x $\frac{1}{2}$x


3
15
30
150
9,375
75
18,750
3,750
750
1,875
375

Name ______________________________ **N 26** *

10x +1 −1

Build a red-blue-green road between each pair of numbers. Use less than ten arrows to build each road.

Name ________________________________

N 26 **

10x   +1   −1

Build a red-blue-green road between each pair of numbers. Use less than ten arrows to build each road.

103 ●

9 ●

---

108 ●

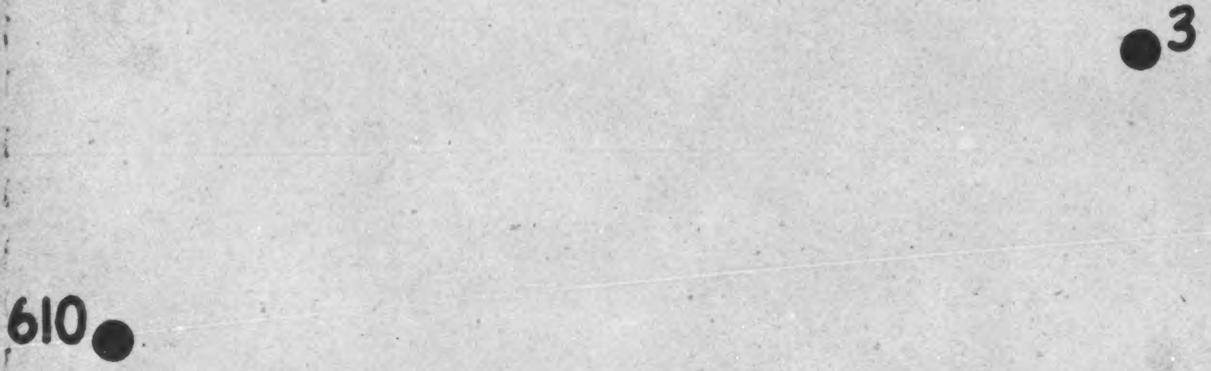
12 ●

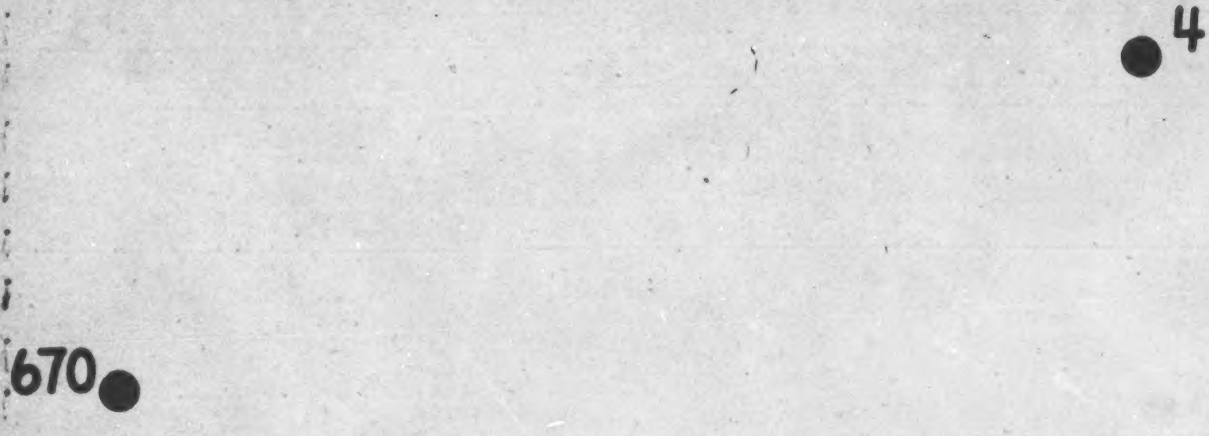
Name ________________________

N26 ***

10x   +1   −1

Build a red-blue-green road between each pair of numbers. Use less than ten arrows to build each road.





Name ______________________

N 26 ****

10× +1 −1

Build a red-blue-green road between each pair of numbers. Use less than ten arrows to build each road.

● 11

1,021 ●

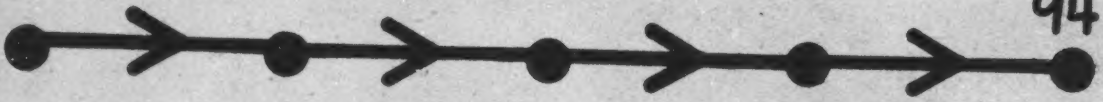
● 13

989 ●

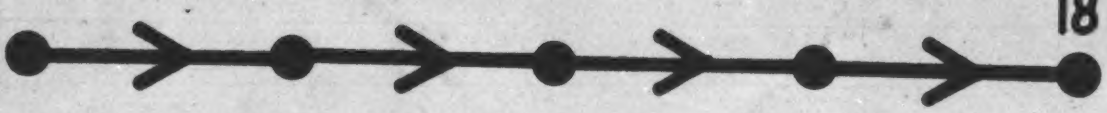
Name ________________________________

N 31 *

Label the dots.



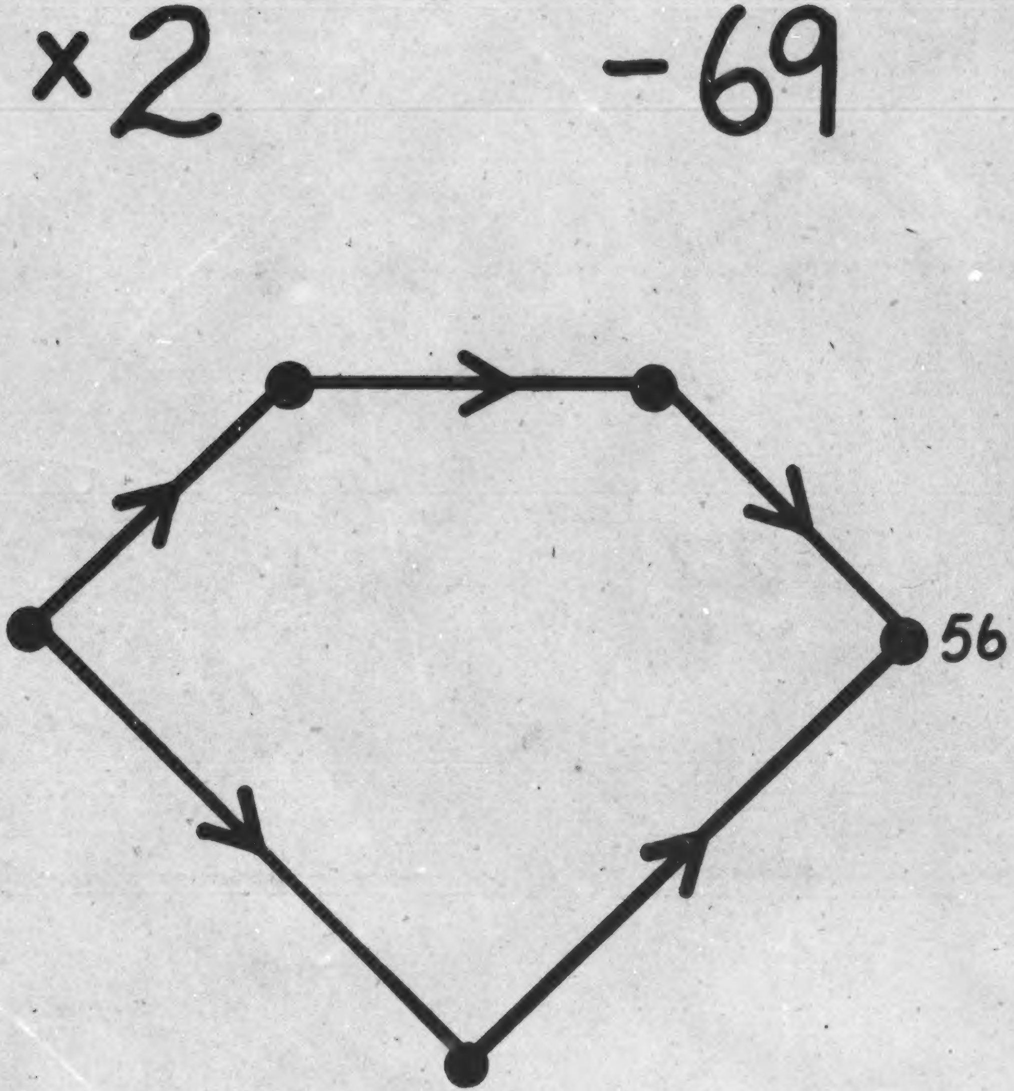
-37 +46



Name ______________________________

N 31 **

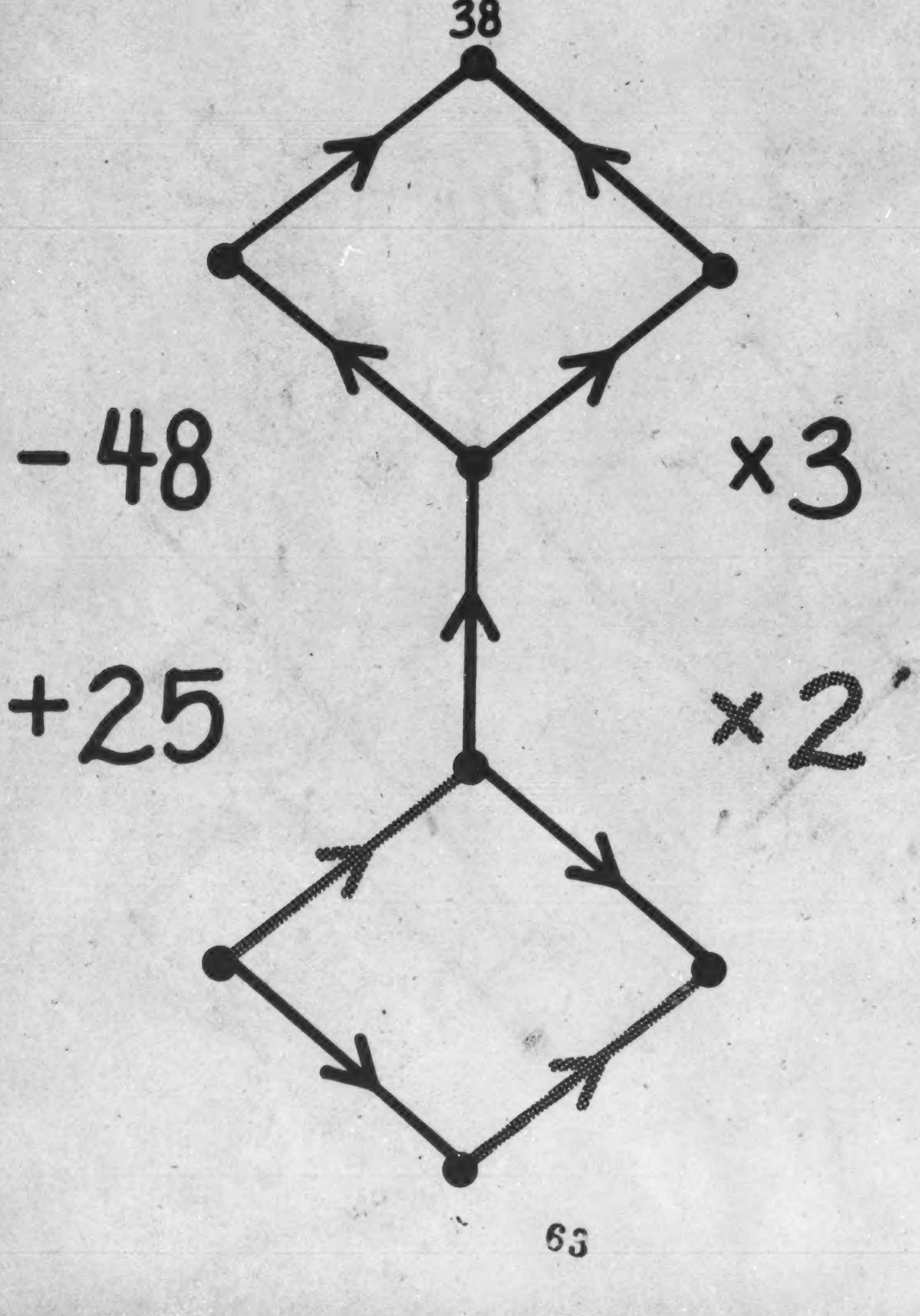
Label the dots.



Name ____________________

N 31 ＊＊＊

Label the dots.



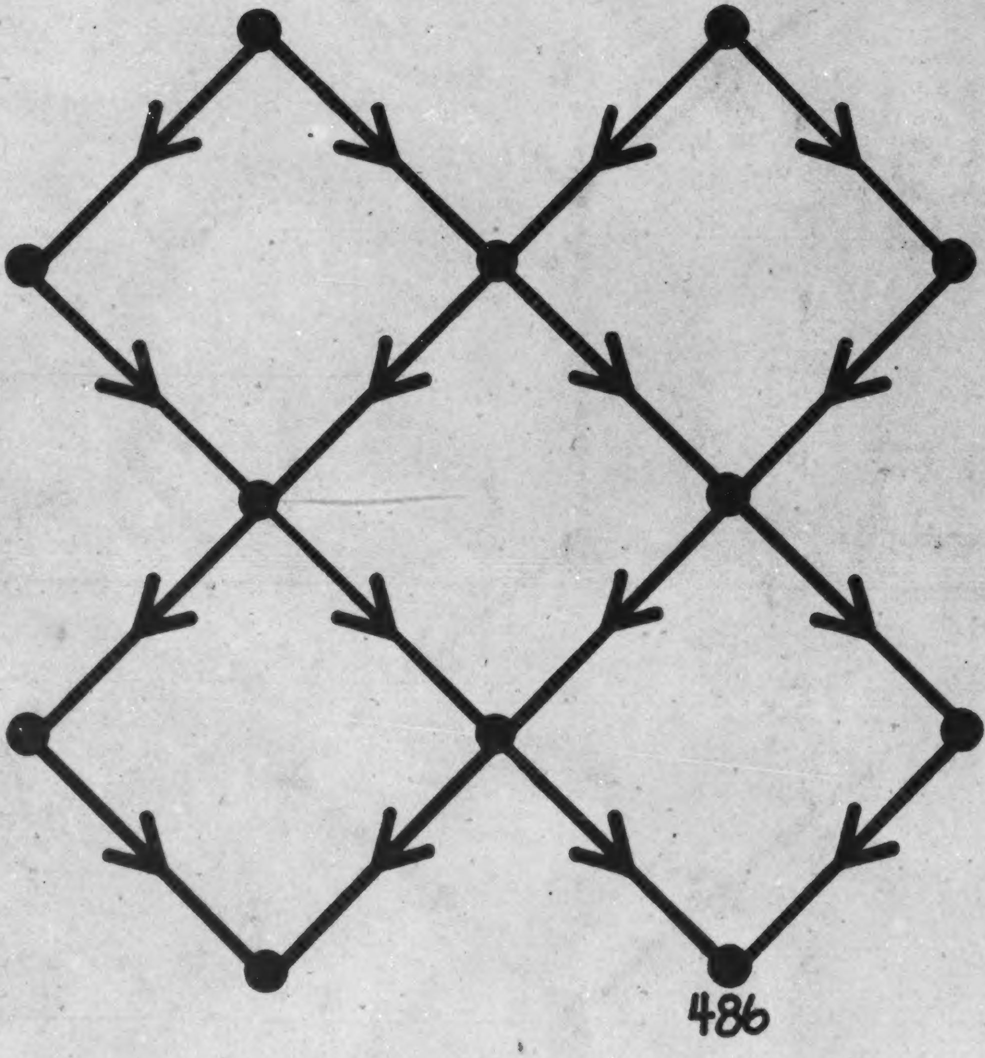
Name

N31 ****

Label the dots.

Draw the seven missing green arrows.

×3 ×6 ×2



Name ____________________

N 34 *

$2x$ or $\frac{1}{2}x$

$+1$ or -1

Build a red-blue road between each pair of numbers. Use less than ten cords to build each road.

6
●

● 50

7
●

● 30

Name ____________________

N 34 **

2x or $\frac{1}{2}$x

+1 or −1

Build a red-blue road between each pair of numbers. Use less than ten cords to build each road.

40 ●

14 ●

---

20 ●

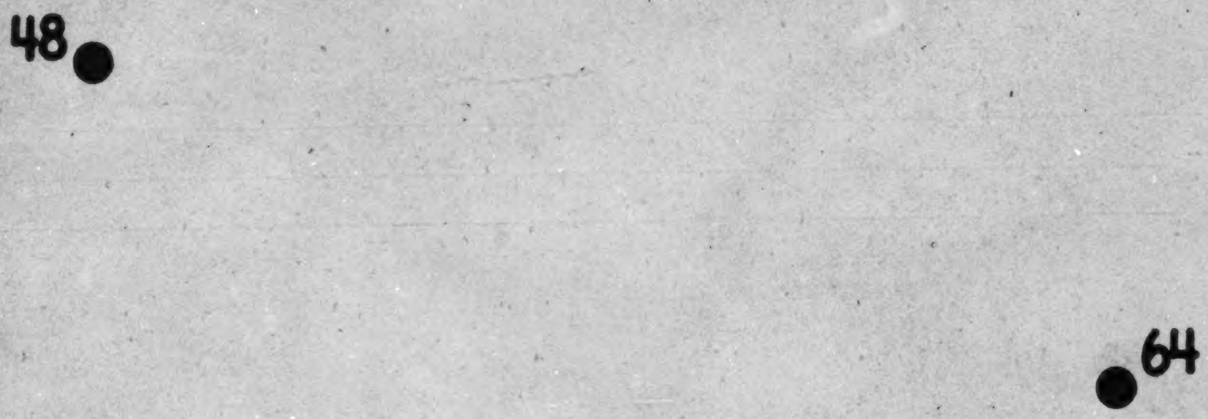
30 ●

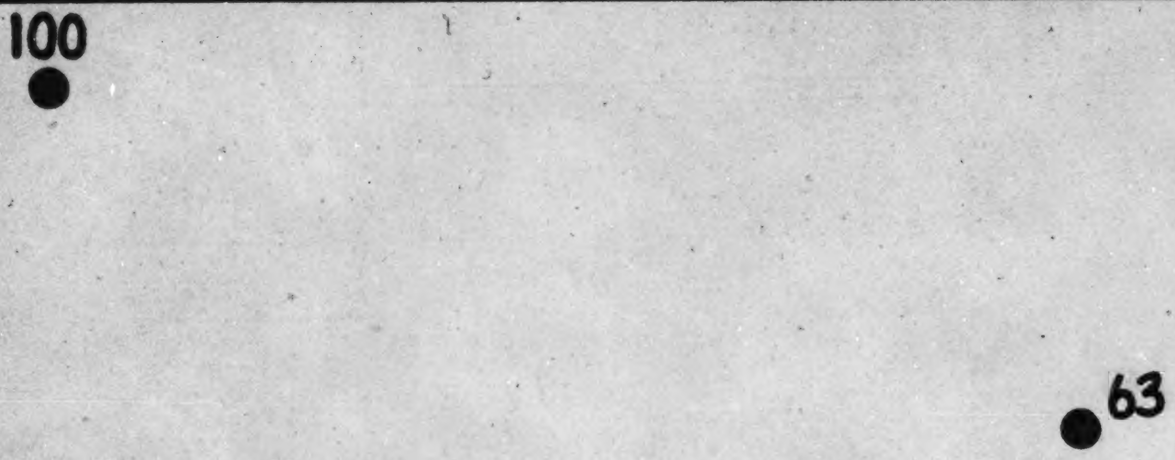
Name ____________________ **N 34 *****

$2\times$ or $\frac{1}{2}\times$

$+1$ or -1

Build a red-blue road between each pair of numbers. Use as few cords as possible to build each road.





Name ____________________ **N34 ******

$2x$ or $\frac{1}{2}x$ $+1$ or -1

Build a red-blue road between each pair of numbers. Use as few cords as possible to build each road.

Name ____________________

L 2 *

Match names for the same number.
One is done for you.

$(2\times5)+10$

$(2\times10)+5$

$(5\times10)+2$

$2\times(5+10)$

$5\times(10+2)$

$10\times(5+2)$

25

70

20

60

30

52

Name ______________________________

L 2 **

Elf is a secret number.

First clue

A name for Elf can be written using all these symbols, each symbol exactly once.

(+ ×)

2 1 4

Second clue

A name for Elf can be written using all these symbols, each symbol exactly once.

2 ( ) 6

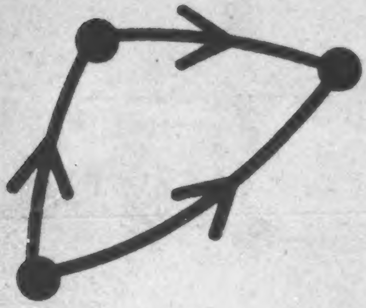
+ 3 ×

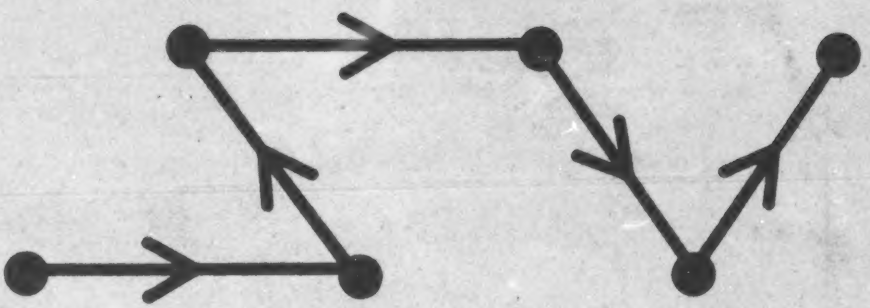
Who is Elf? __________

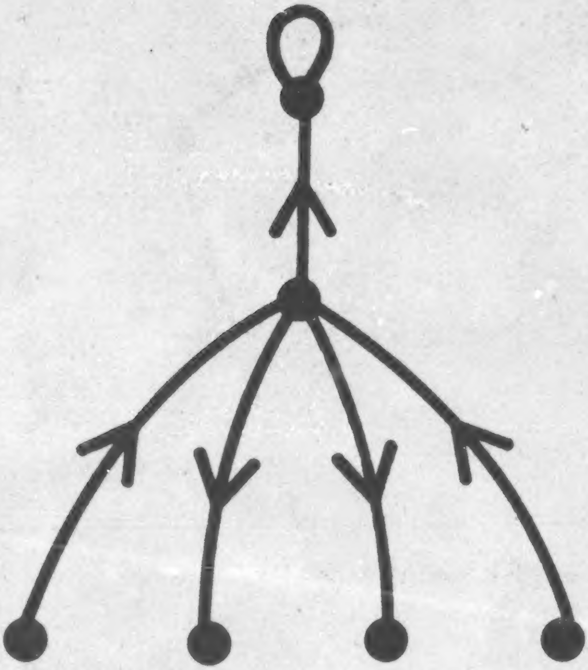
Name ________________________

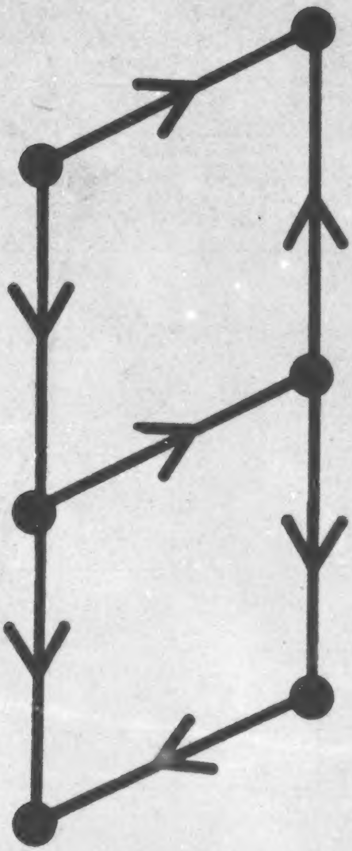
L 4 *

Draw all the missing red arrows and loops.





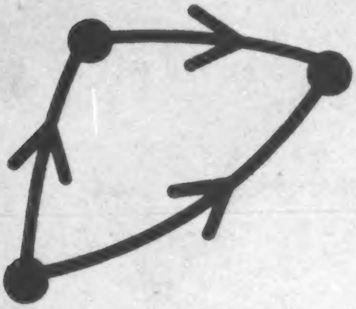


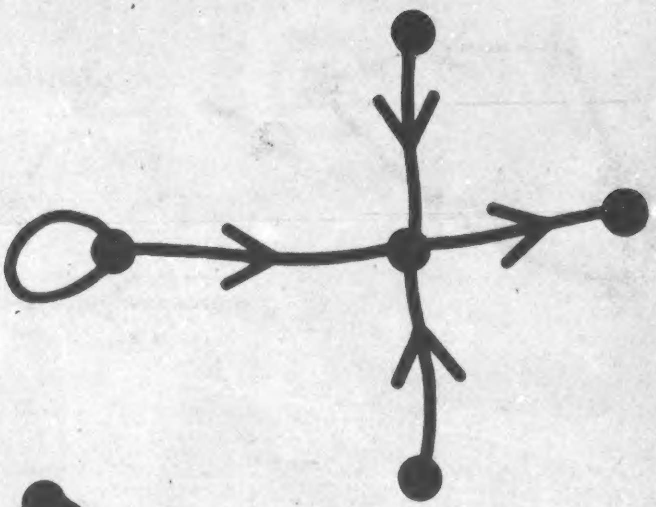


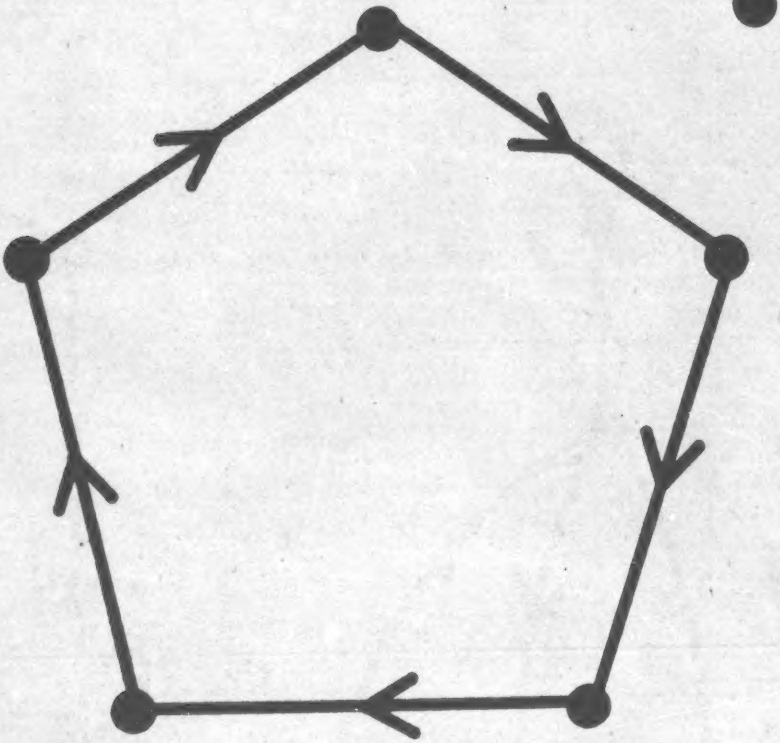
Name ______________________________

L 4 **

Draw all the missing red arrows and loops.



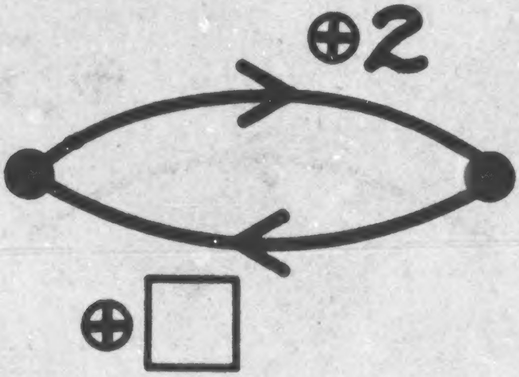




Name ____________________

L 6 *

Fill in the chart with ways to label the dots.



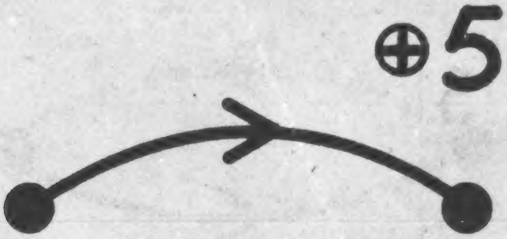
5	
9	1
	0

What could the blue arrow be for? Fill in the box.

Name ____________________

L 6 **

Fill in the chart with ways to label the dots.



0	
7	2
	1

Name ______________________

L 7

+	4	7	13
5			
10			

−	4	7	13
5			
10			

×	4	7	13
5			
10			

Name ______________________________

L 11 *

Complete these number stories about the ten friends' multiplication game.

$1 \otimes 6 = \square$

$2 \otimes 6 = \square$

$3 \otimes 6 = \square$

$4 \otimes 6 = \square$

$5 \otimes 6 = \square$

$6 \otimes 6 = \square$

$9 \otimes 1 = \square$

$2 \otimes 8 = \square$

$3 \otimes 8 = \square$

$5 \otimes 7 = \square$

$4 \otimes 9 = \square$

$7 \otimes 3 = \square$

Name ______________________

L 11 **

Find several solutions to this number story.
One is done for you.

$$\square \otimes \triangle = 2$$

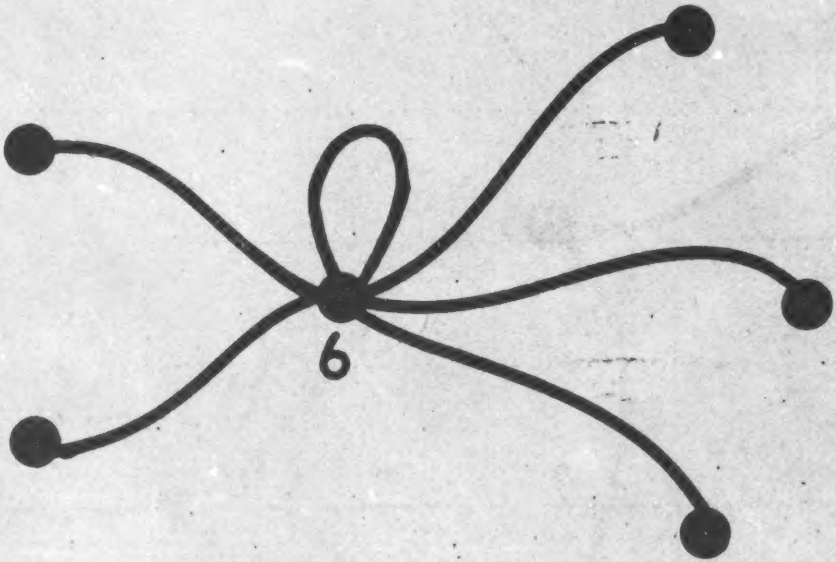
1	2	1⊗2=2

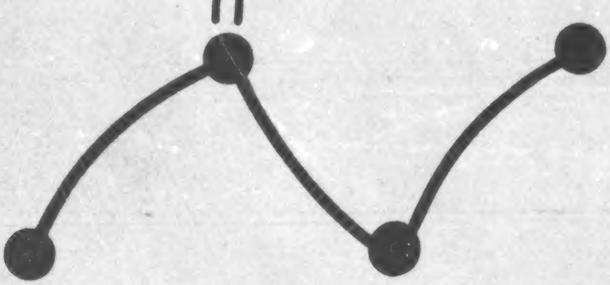
Name

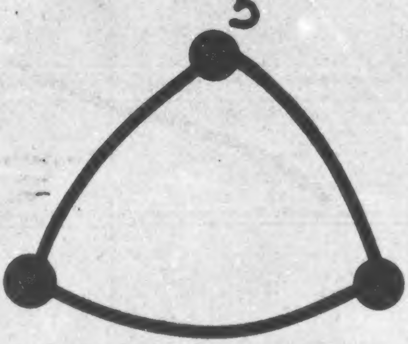
L 12 *

Two numbers may talk to each other
if and only if
one number is a multiple of the other.

Label the dots. Many solutions are possible.





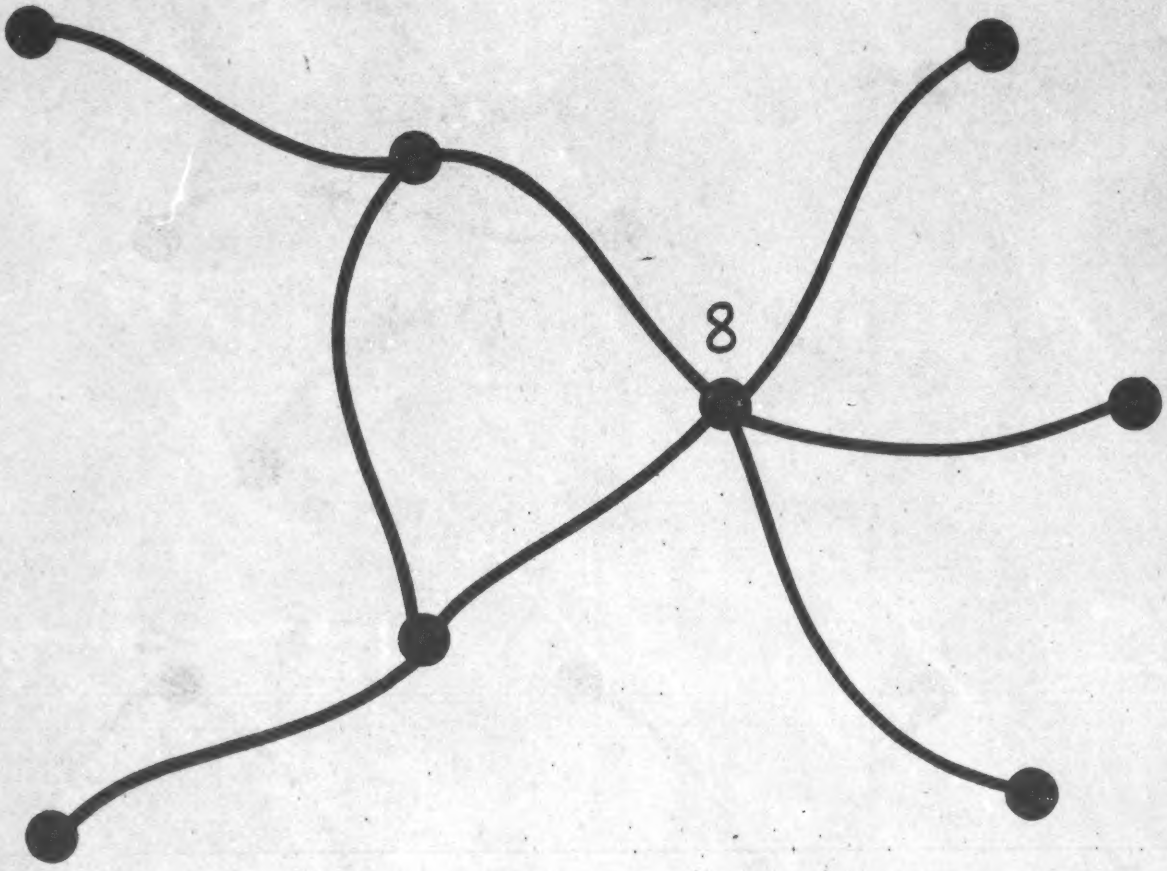


Name ______________________

L 12 **

Two numbers may talk to each other
if and only if
one number is a multiple of the other.

Label the dots. Many solutions are possible.



Name ________________________ **L 14**

is on the same +5 arrow road	13	17	28	32	103
$\hat{8}$					
$\hat{2}$					
7					
33					

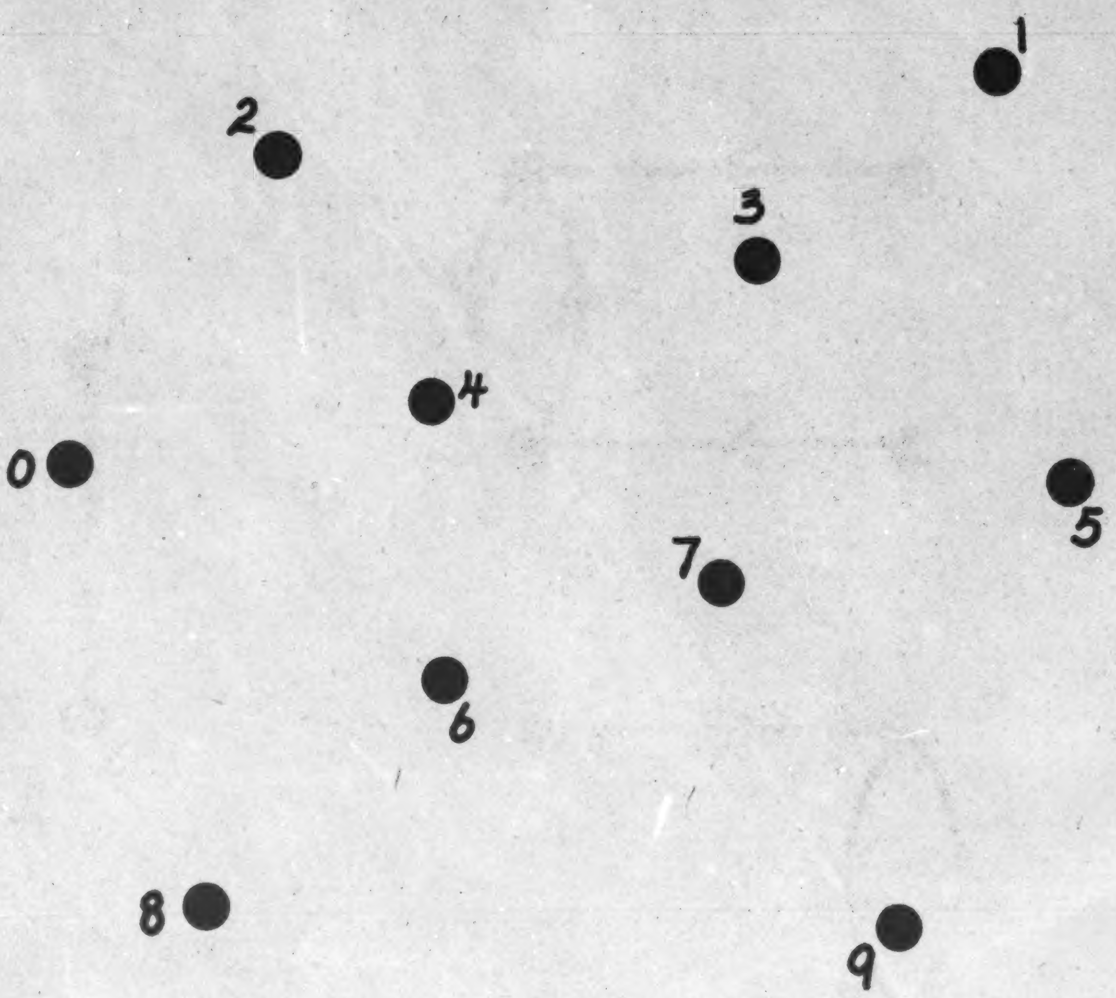
is on the same +10 arrow road	13	17	28	32	103
$\hat{8}$					
$\hat{2}$					
7					
33					

Name ______________________

L 17 *

All the ten number friends are here. Draw blue arrow for their 5⊗ picture.

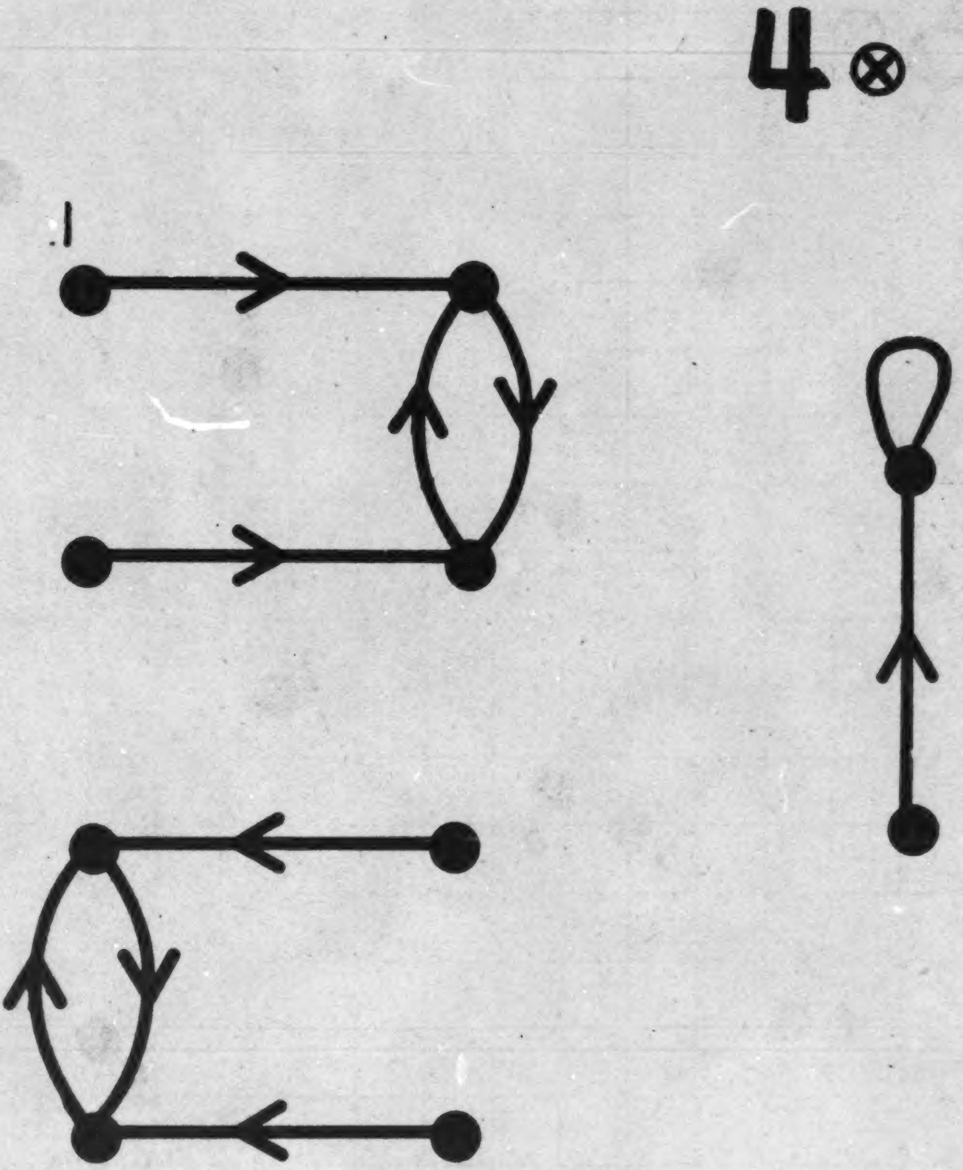
5⊗


1
2
3
4
0
5
7
6
8
9

Name ______________________________

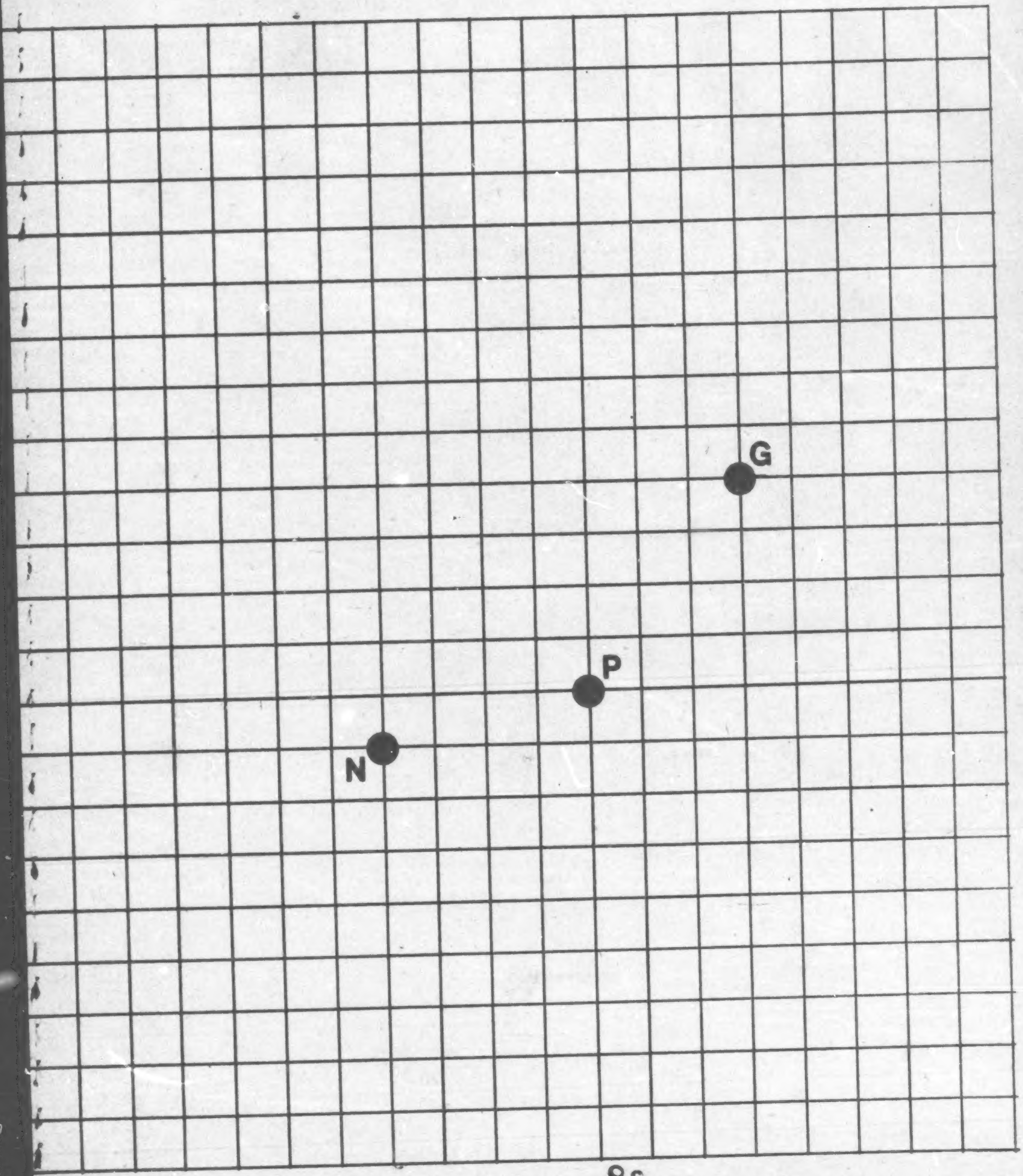
L 17 **

Label the dots to show the ten number friends in this 4⊗ picture.



Name ______________________

G 1



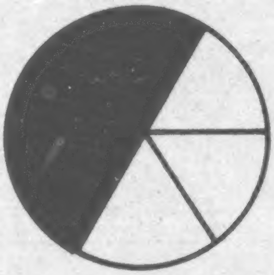
Name ____________________

G 2 *

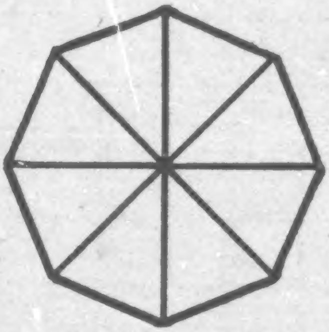
Color exactly one-half of each shape.

Use the picture to write another name for $\frac{1}{2}$.

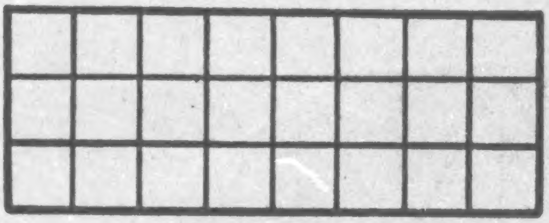
EXAMPLE:



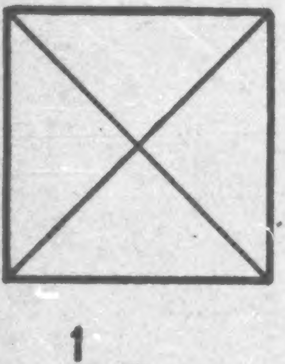
$\frac{1}{2} = \frac{3}{6}$



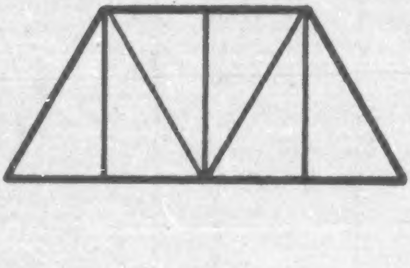
$\frac{1}{2} = —$



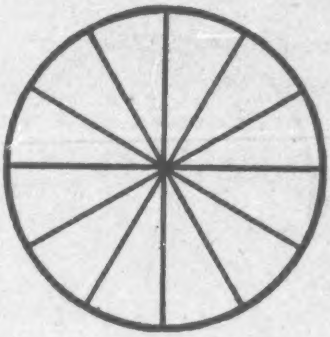
$\frac{1}{2} = —$



$\frac{1}{2} = —$



$\frac{1}{2} = —$



$\frac{1}{2} = —$

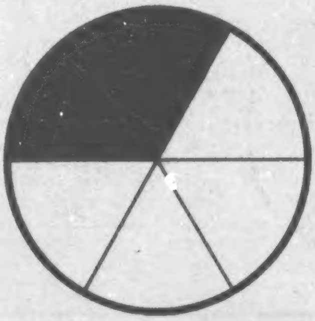
Name ________________________

G 2 **

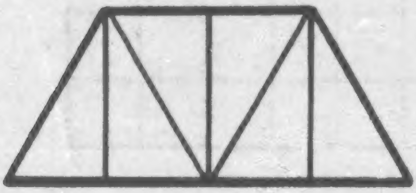
Color exactly one-third of each shape.

Use the picture to write another name for $\frac{1}{3}$.

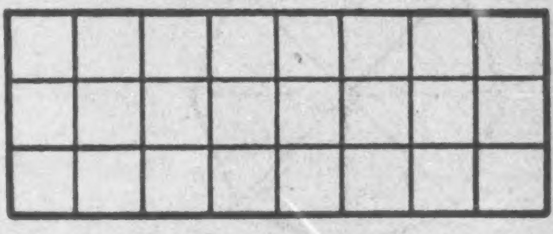
EXAMPLE:



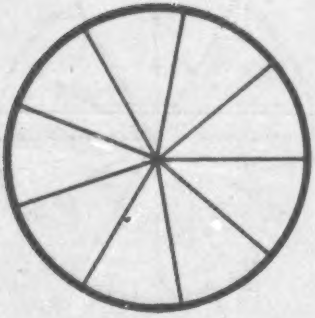
$\frac{1}{3} = \frac{2}{6}$



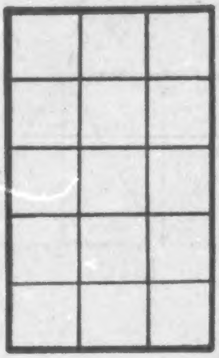
$\frac{1}{3} = \frac{\ }{\ }$ —



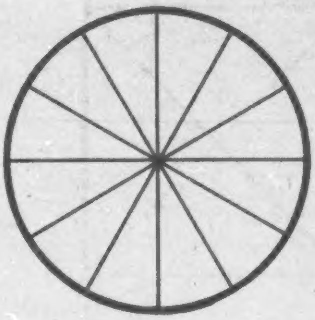
$\frac{1}{3} = \frac{\ }{\ }$ —



$\frac{1}{3} = \frac{\ }{\ }$ —



$\frac{1}{3} = \frac{\ }{\ }$ —



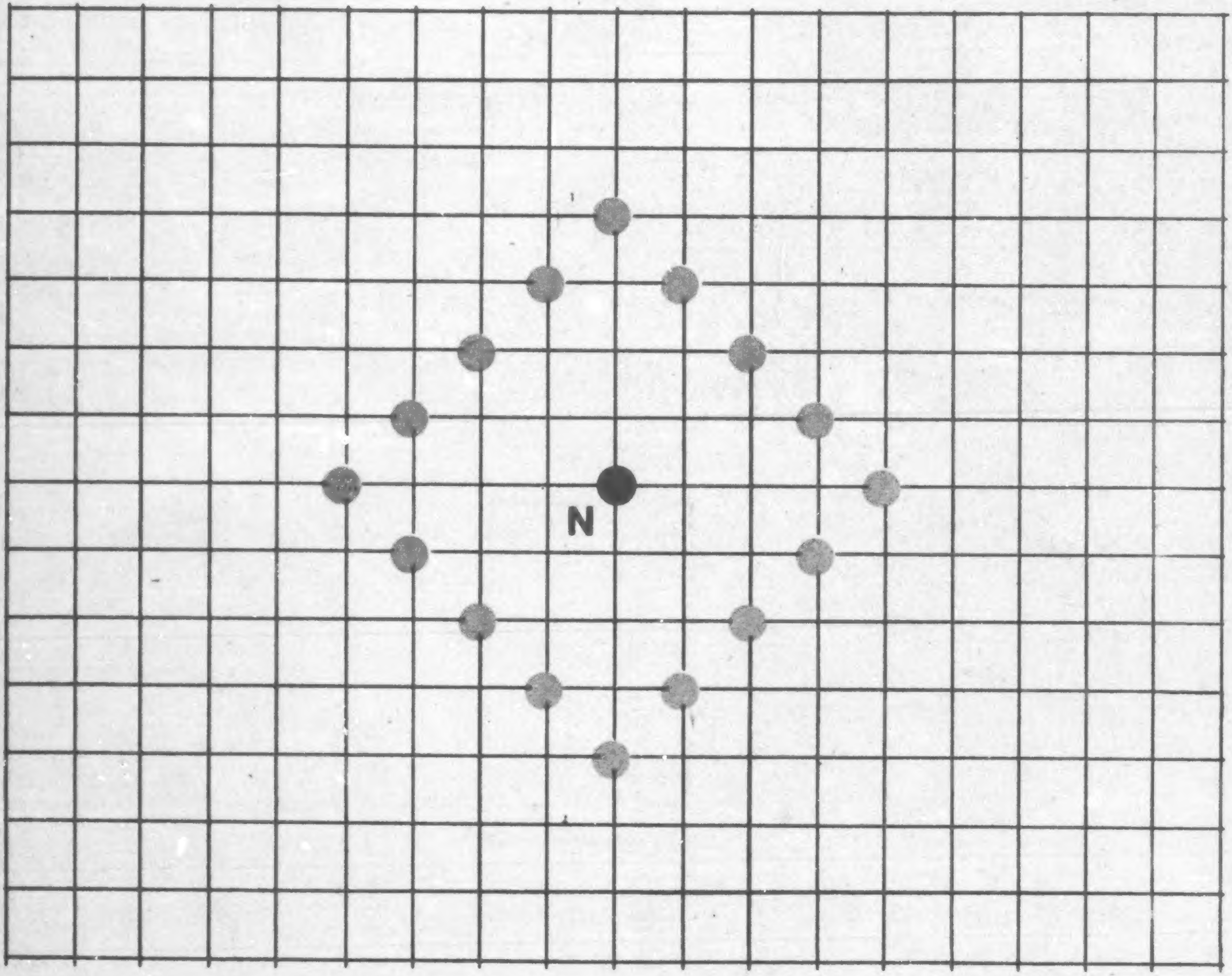
$\frac{1}{3} = \frac{\ }{\ }$ —

Name ________________________

G 3

Complete the table.

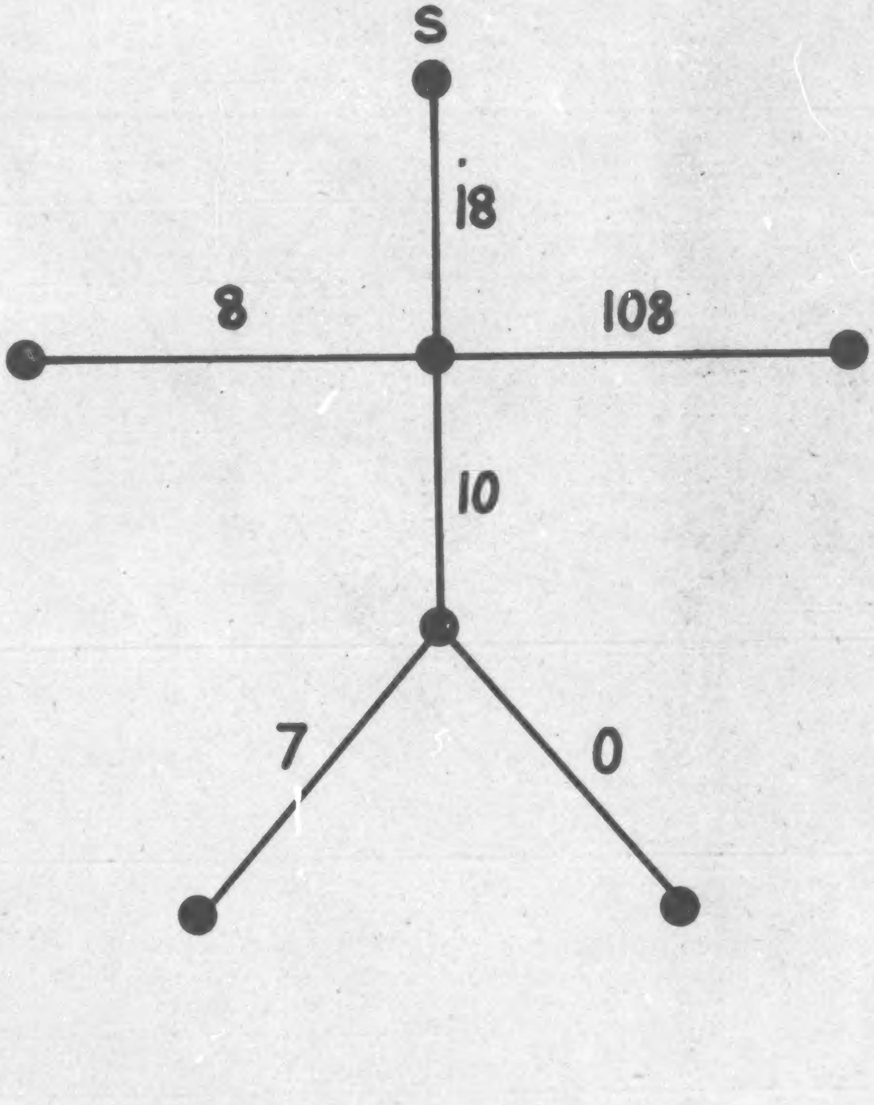
Taxi-distance from N	How many places?	Taxi-distance from N	How many places?
0 blocks ●	1	4 blocks ●	16
1 block ○		5 blocks ○	
2 blocks ○		6 blocks ○	
3 blocks ○		7 blocks ○	



Name ________________________________

G 4 *

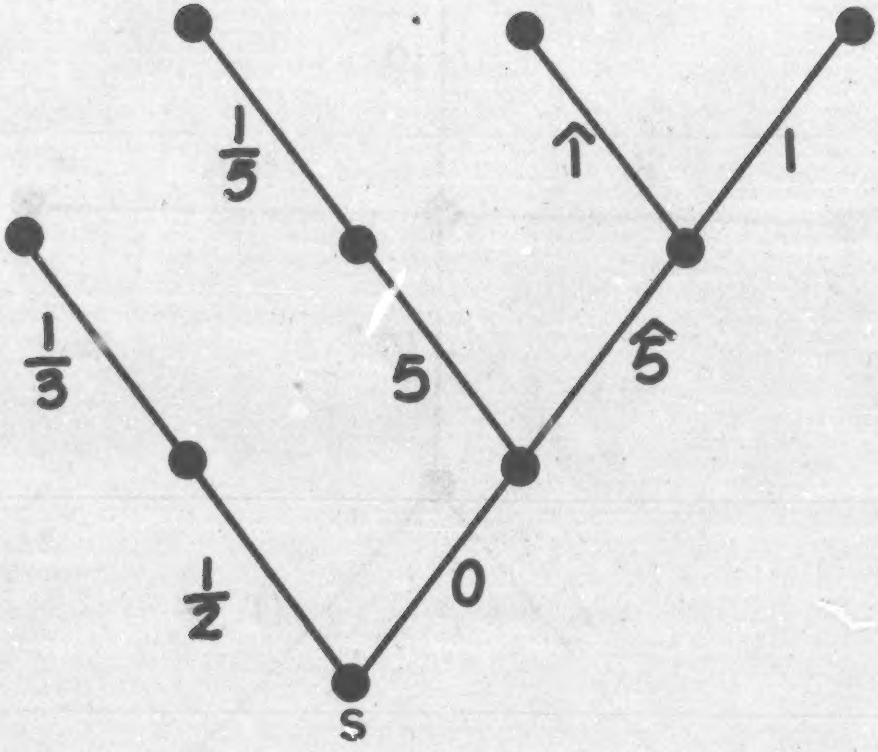
Play the red arrow game with this tree. Start at S.


S
18
8
108
10
7
0

Name ______________________________

G 4 *

Play the red arrow game with this tree. Start at S.

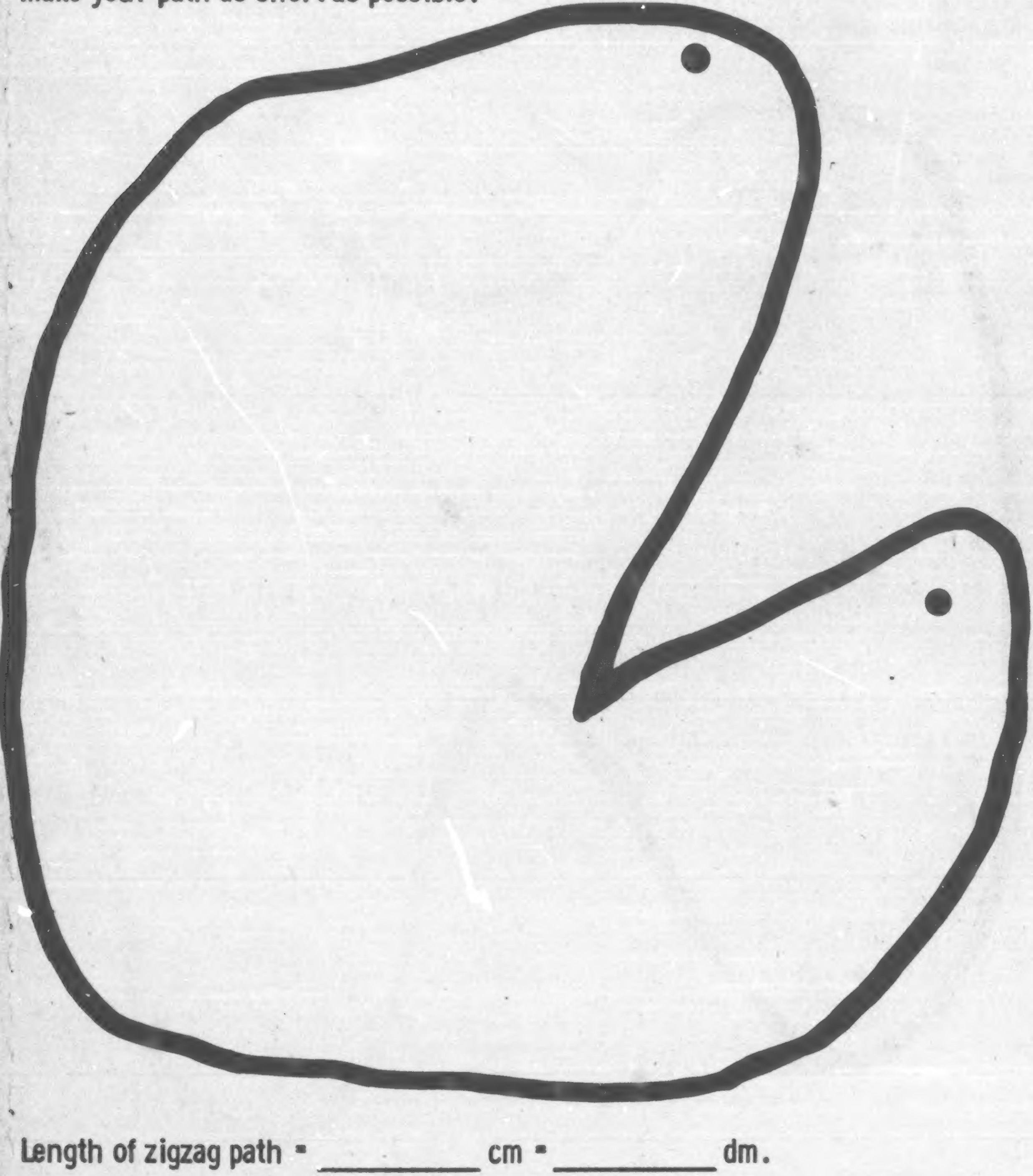


$\frac{1}{5}$
$\hat{1}$
1
$\frac{1}{3}$
5
$\hat{5}$
$\frac{1}{2}$
0
S

Name ______________________________

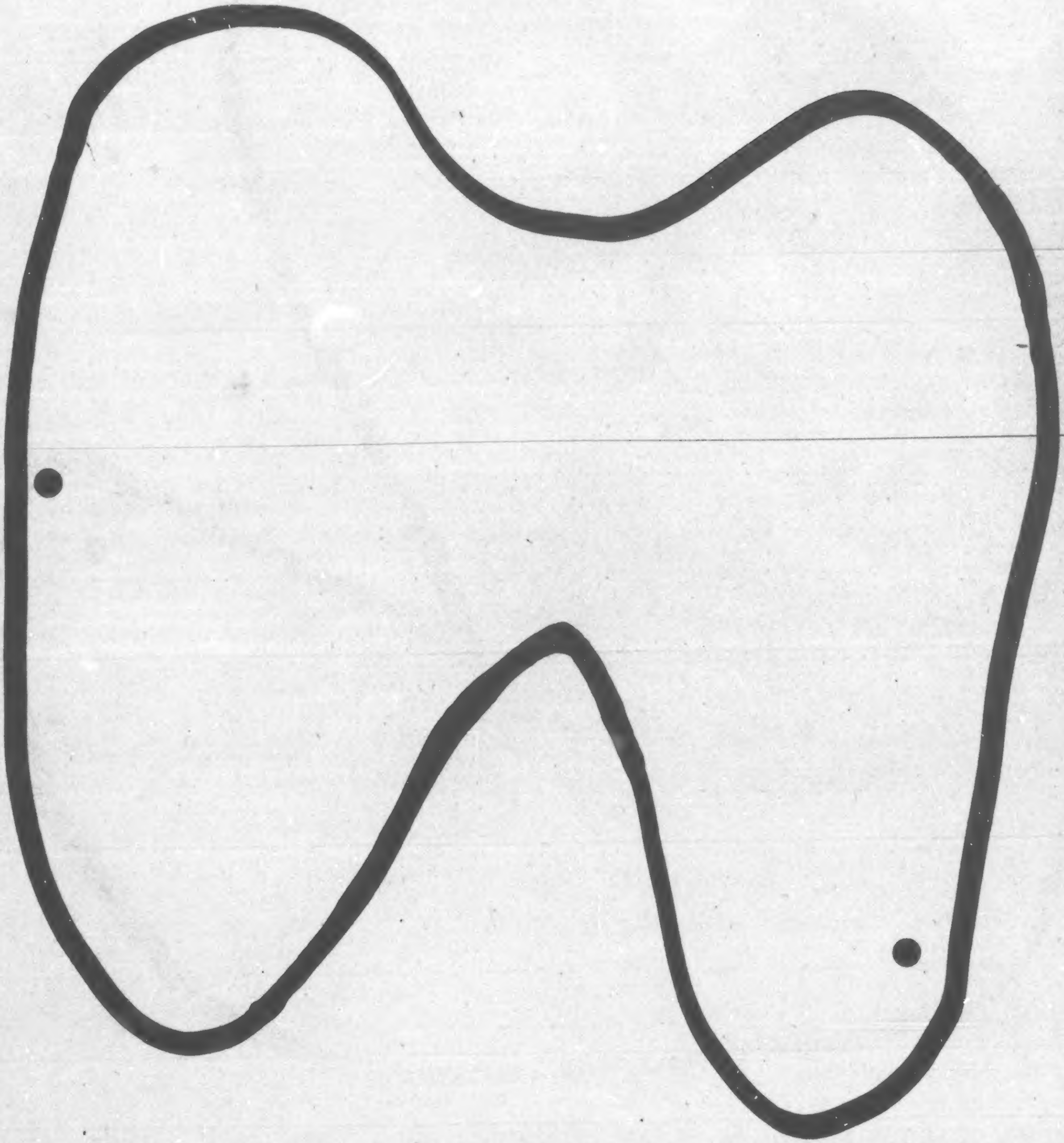
G 5 *

Connect the dots with a zigzag path, but do not go out of the yard. Try to make your path as short as possible.



Length of zigzag path = __________ cm = __________ dm.

Connect the dots with a zigzag path, but do not go out of the yard. Try to make your path as short as possible.

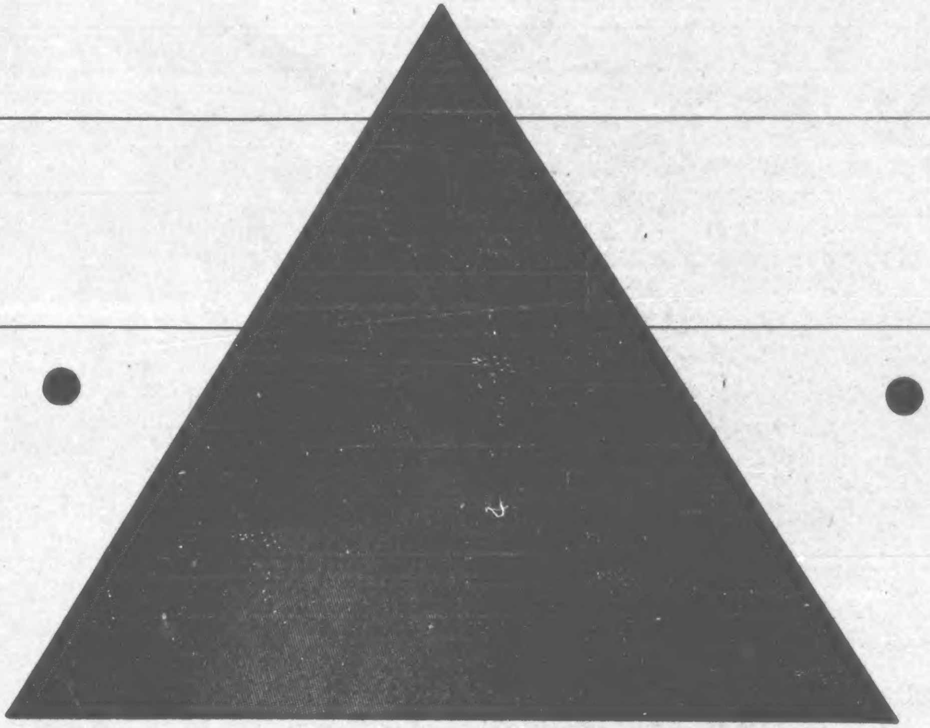


Length of zigzag path = __________ cm = __________ dm.

Name ____________________

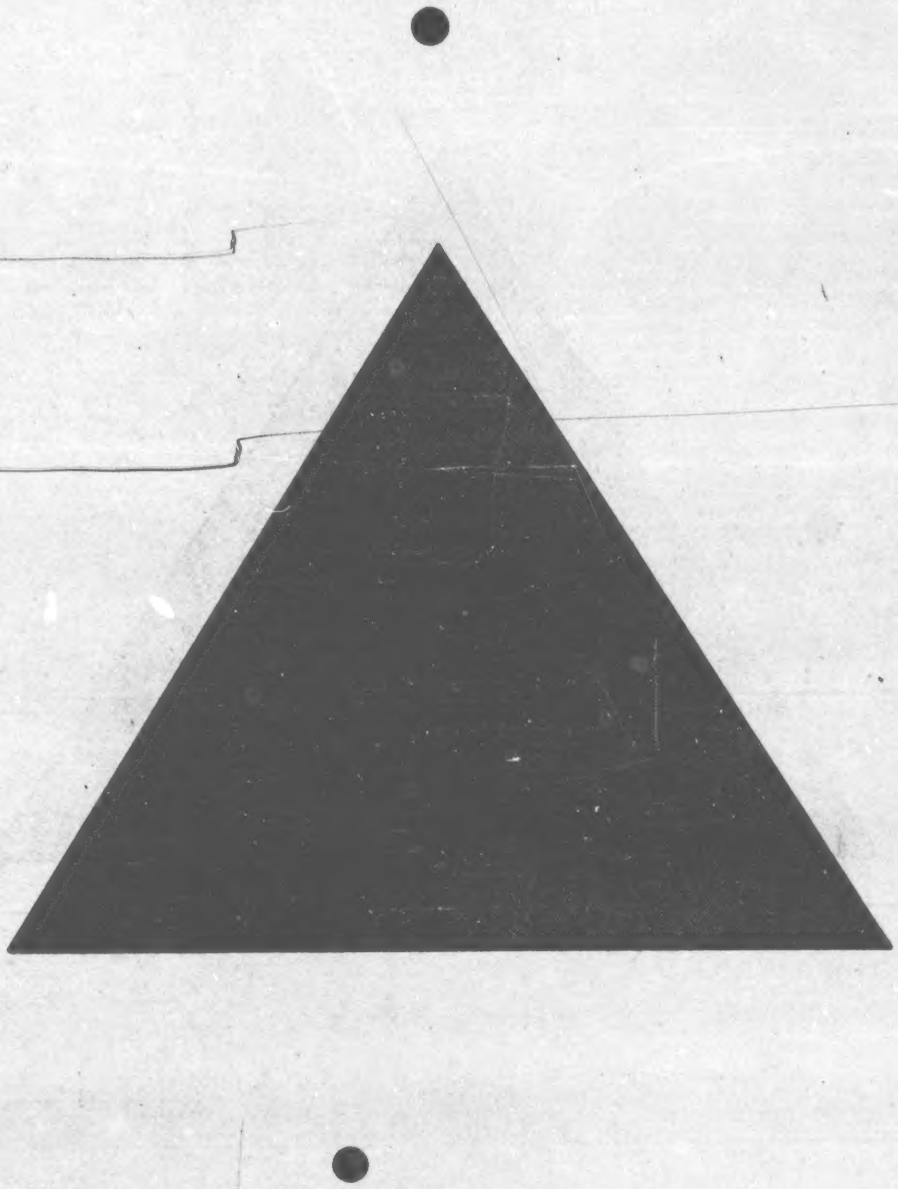
G 5 **

Connect the dots with a zigzag path, but do not go through the building. Try to draw a path shorter than 1.8 dm.



Length of zigzag path = __________ dm (less than 1.8 dm)

Connect the dots with a zigzag path, but do not go through the building. Try to draw a path shorter than 2.3 dm.

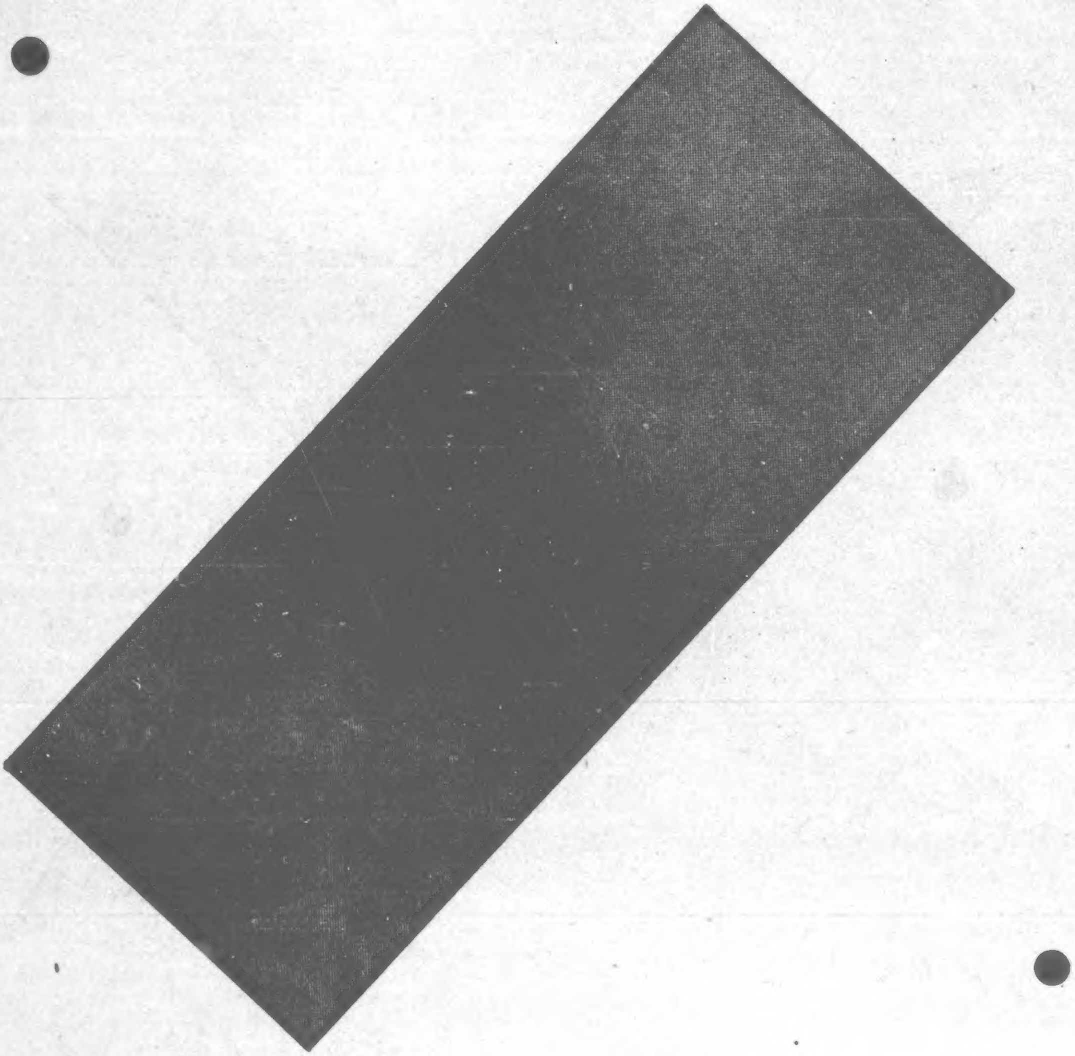


Length of zigzag path = __________ dm (less than 2.3 dm)

Name ________________________

G 5 ***

Connect the dots with a zigzag path, but do not go through the building. Try to draw a path shorter than 2.7 dm.

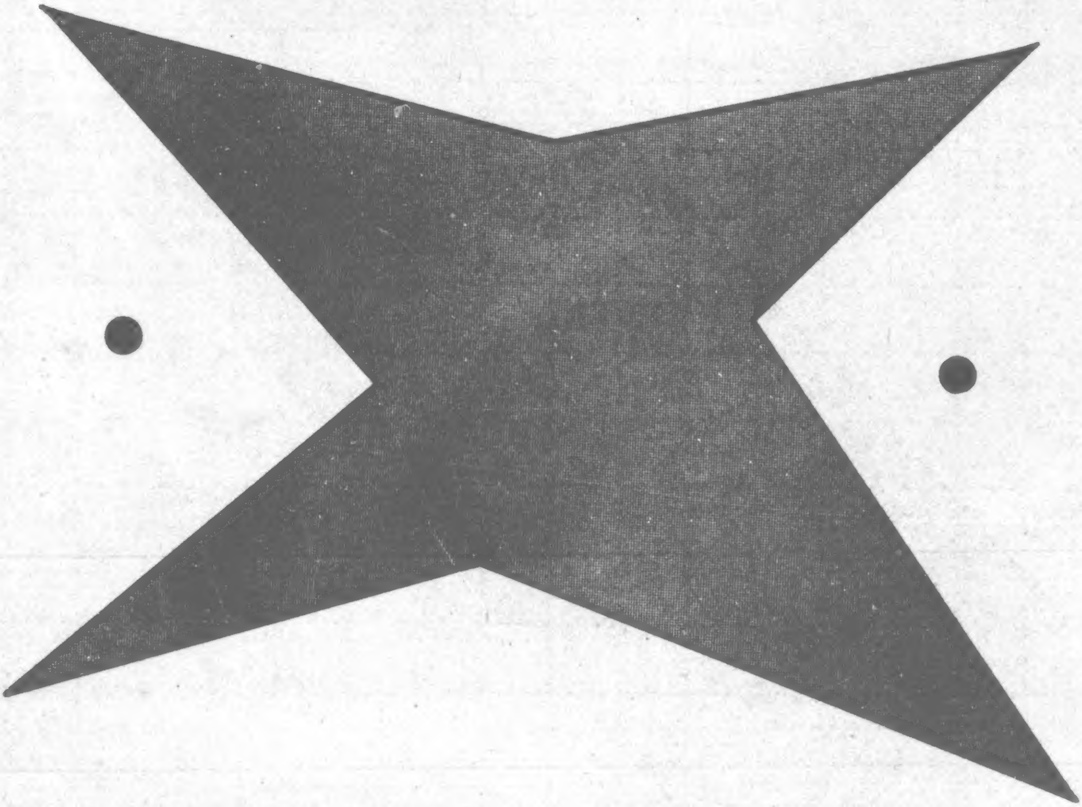


Length of zigzag path = __________ dm (less than 2.7 dm)

Name ______________________________

G 5 **

Connect the dots with a zigzag path, but do not go through the building. Try to draw a path shorter than 2.6 dm.

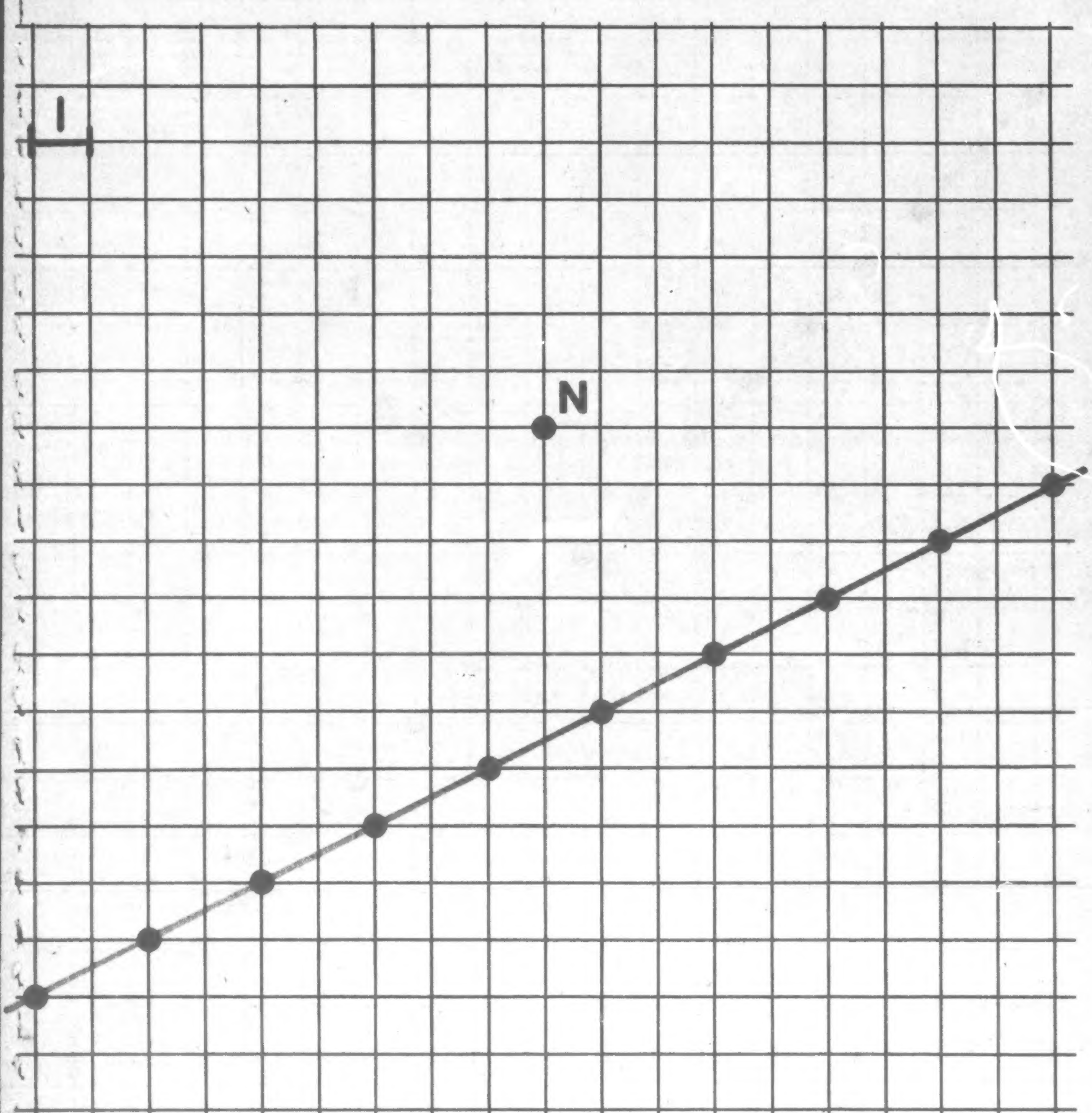


Length of zigzag path = ________ dm (less than 2.6 dm)

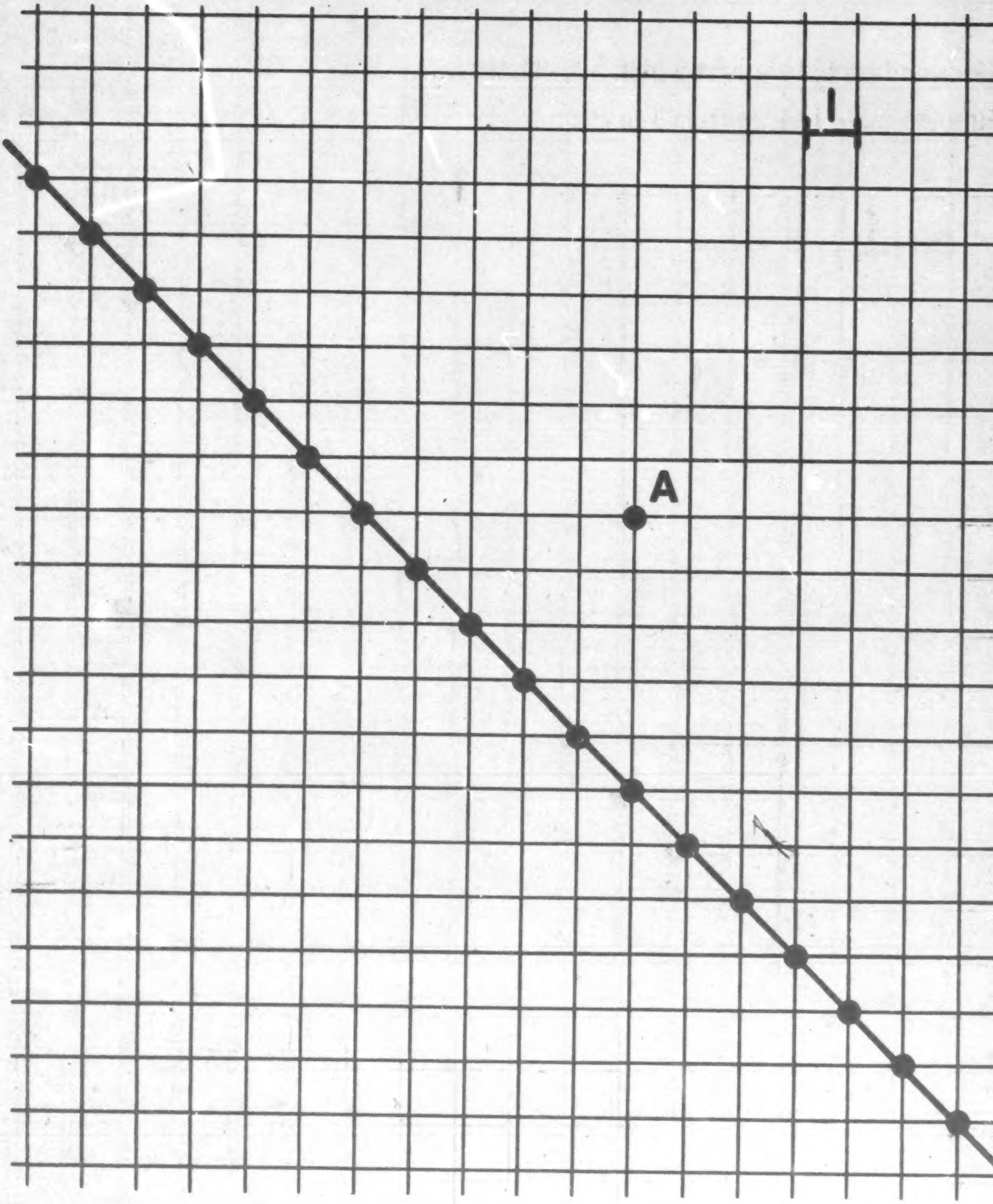
Name ______________________

G 6 *

Find the taxi-distance from N to each station.



Find the taxi-distance from A to each station.

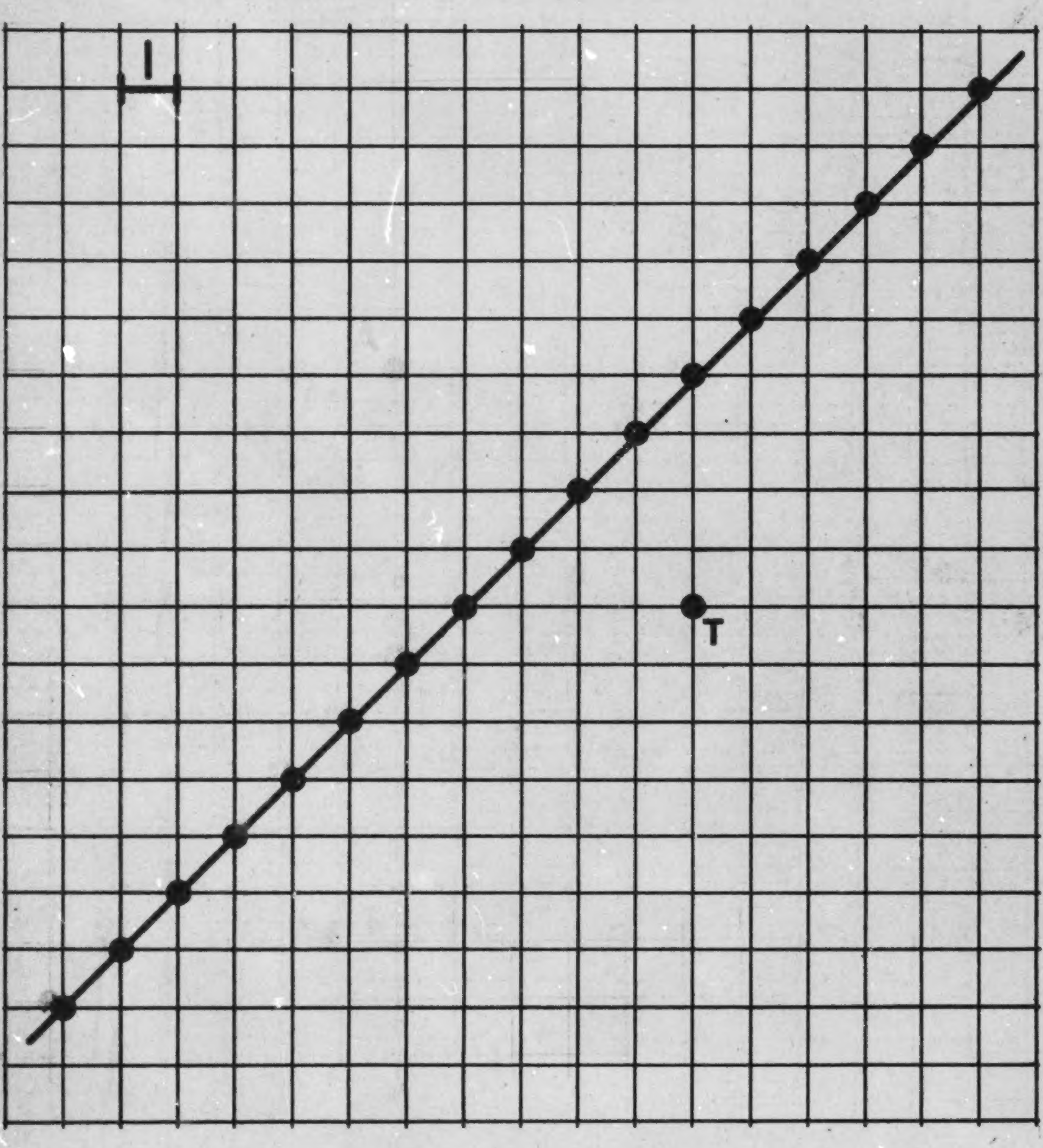


Name ______________________

G 6 **

Circle in red the stations which are closest to T.

Find the taxi-distance from T to each station.

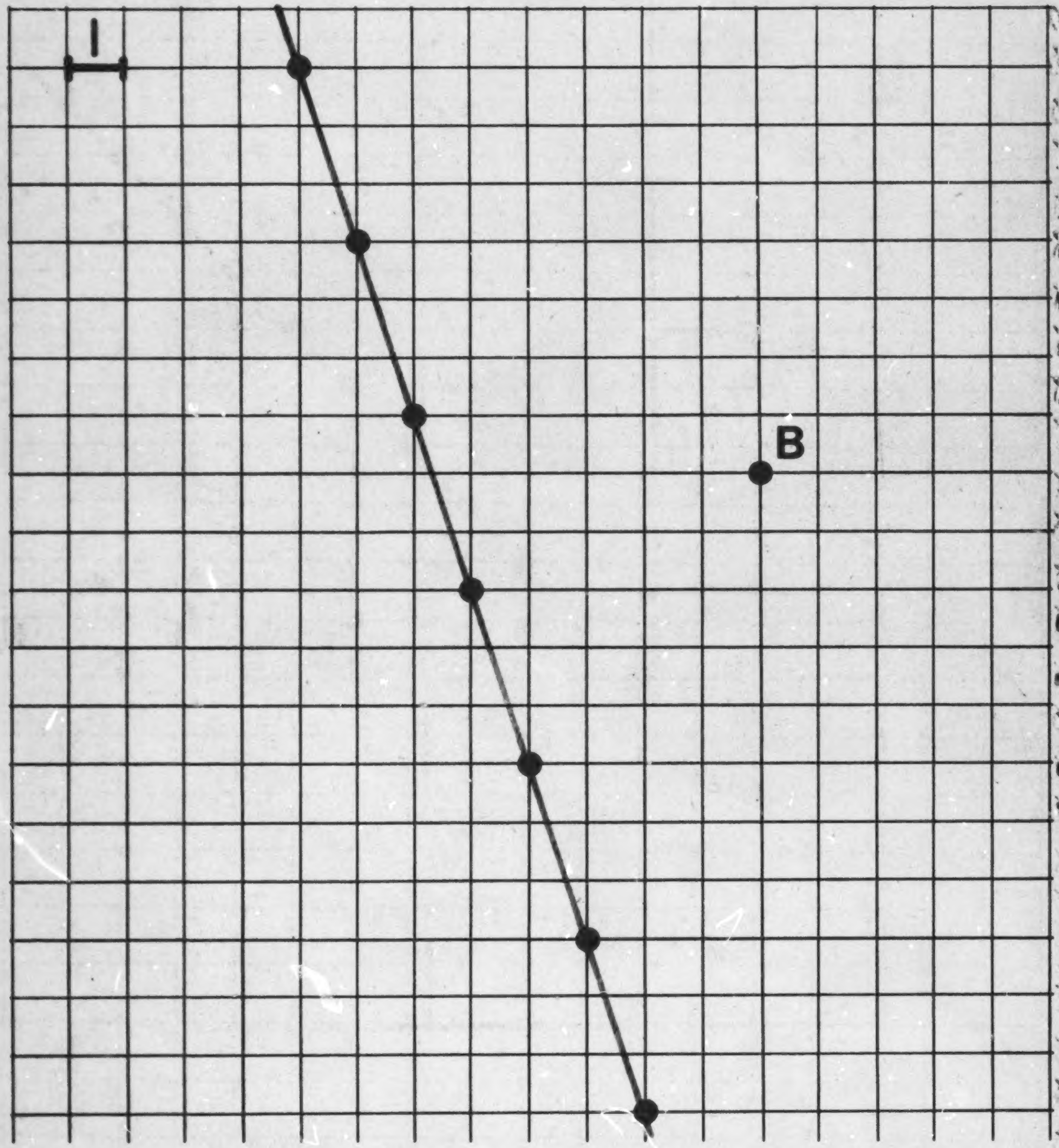


Name ______________________________

G 6 ***

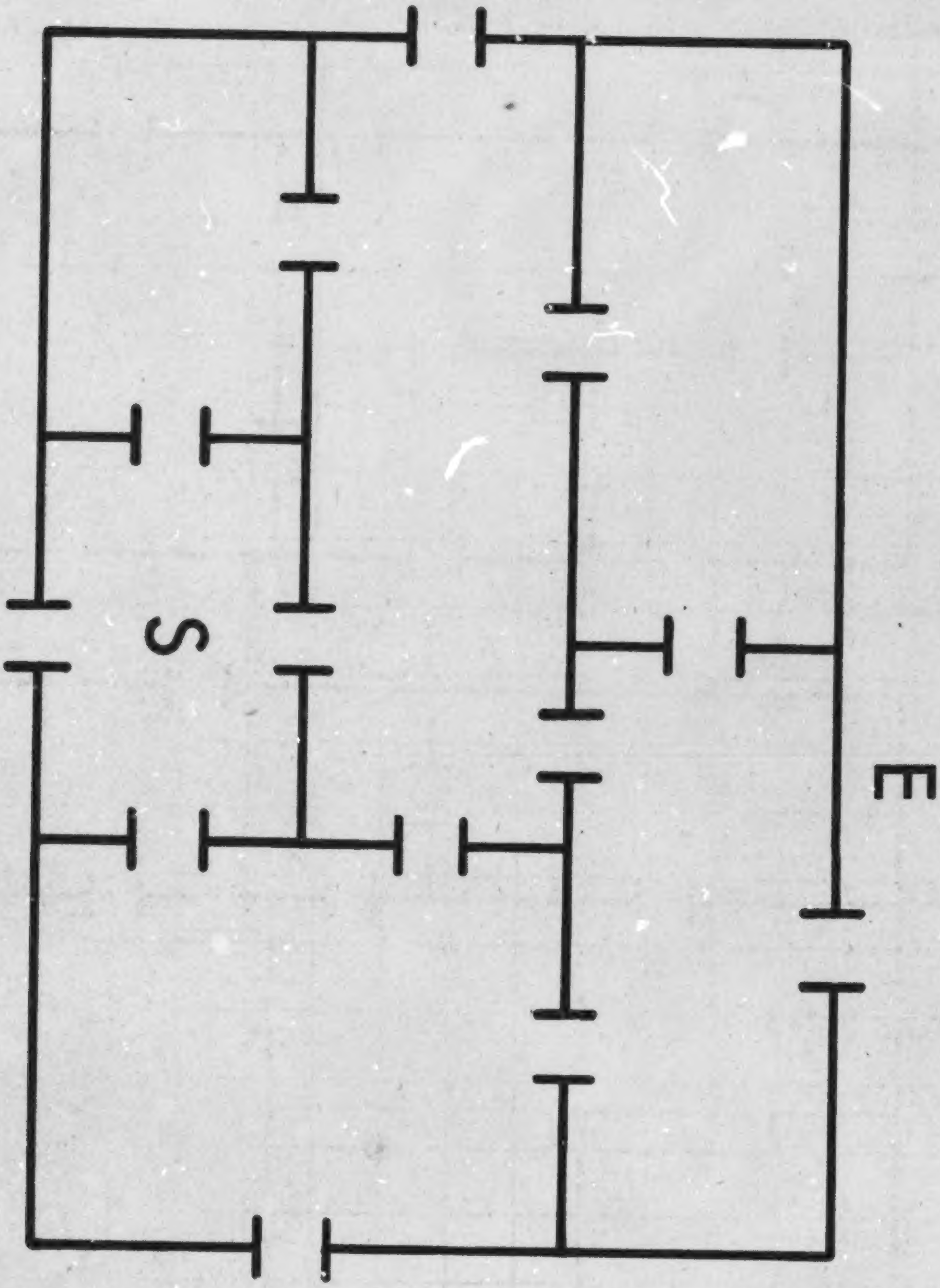
Circle in red the stations which are closest to B.

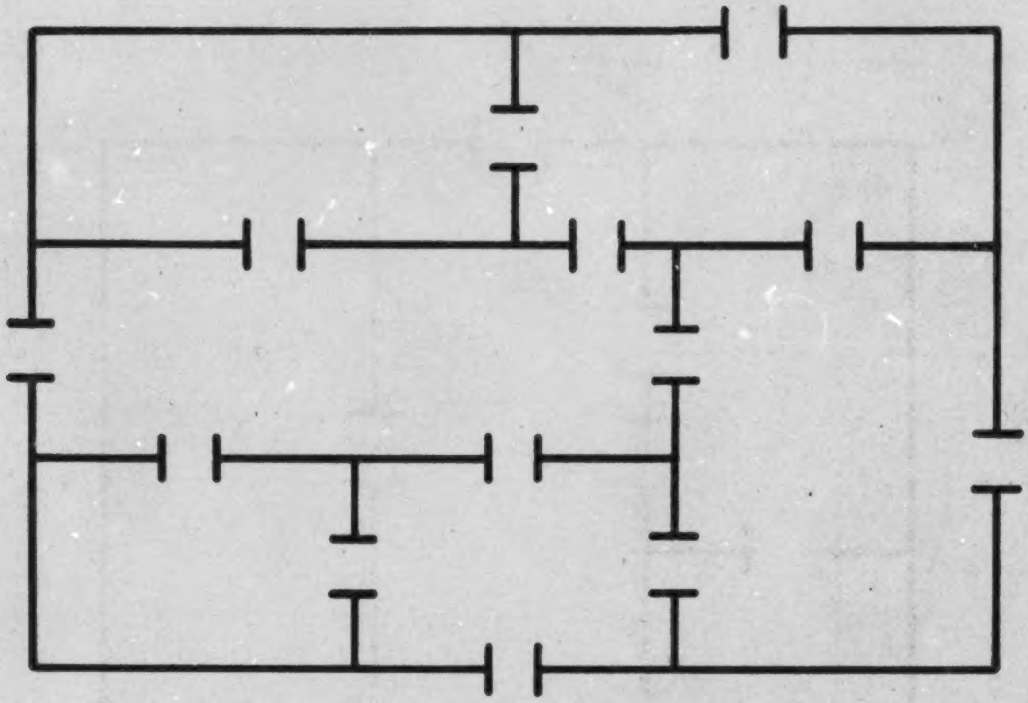
Find the taxi-distance from B to each station.



Name ______________________________

G 7

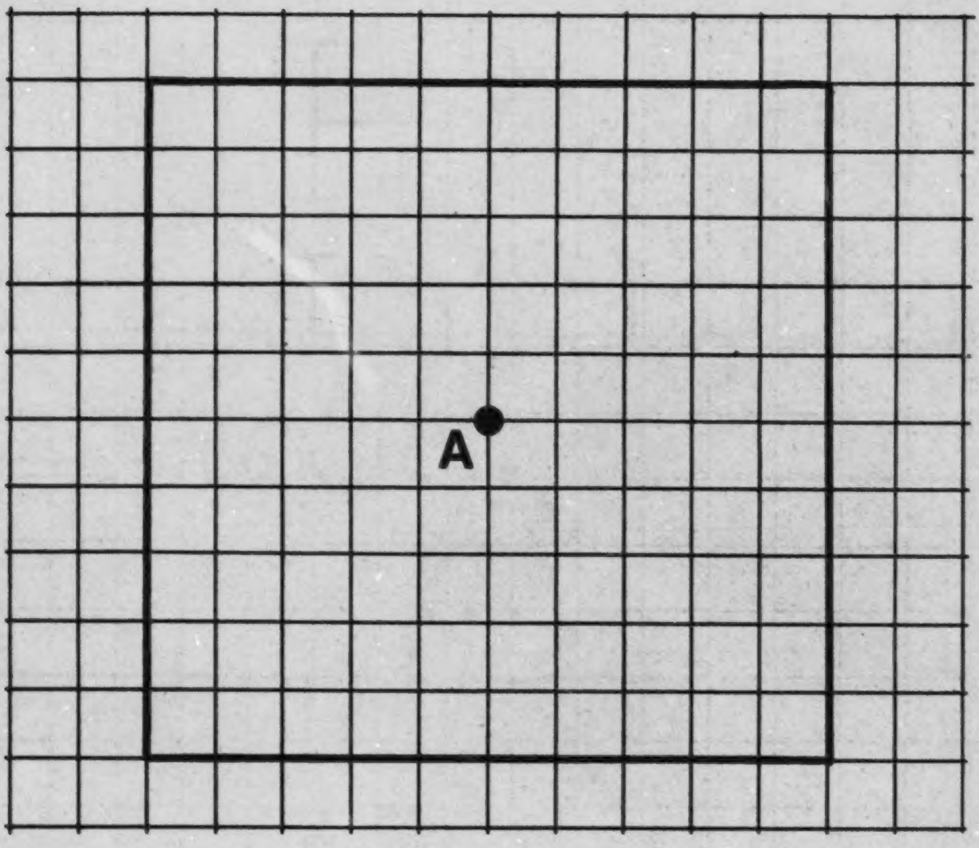




Name ______________________________

G 8 *

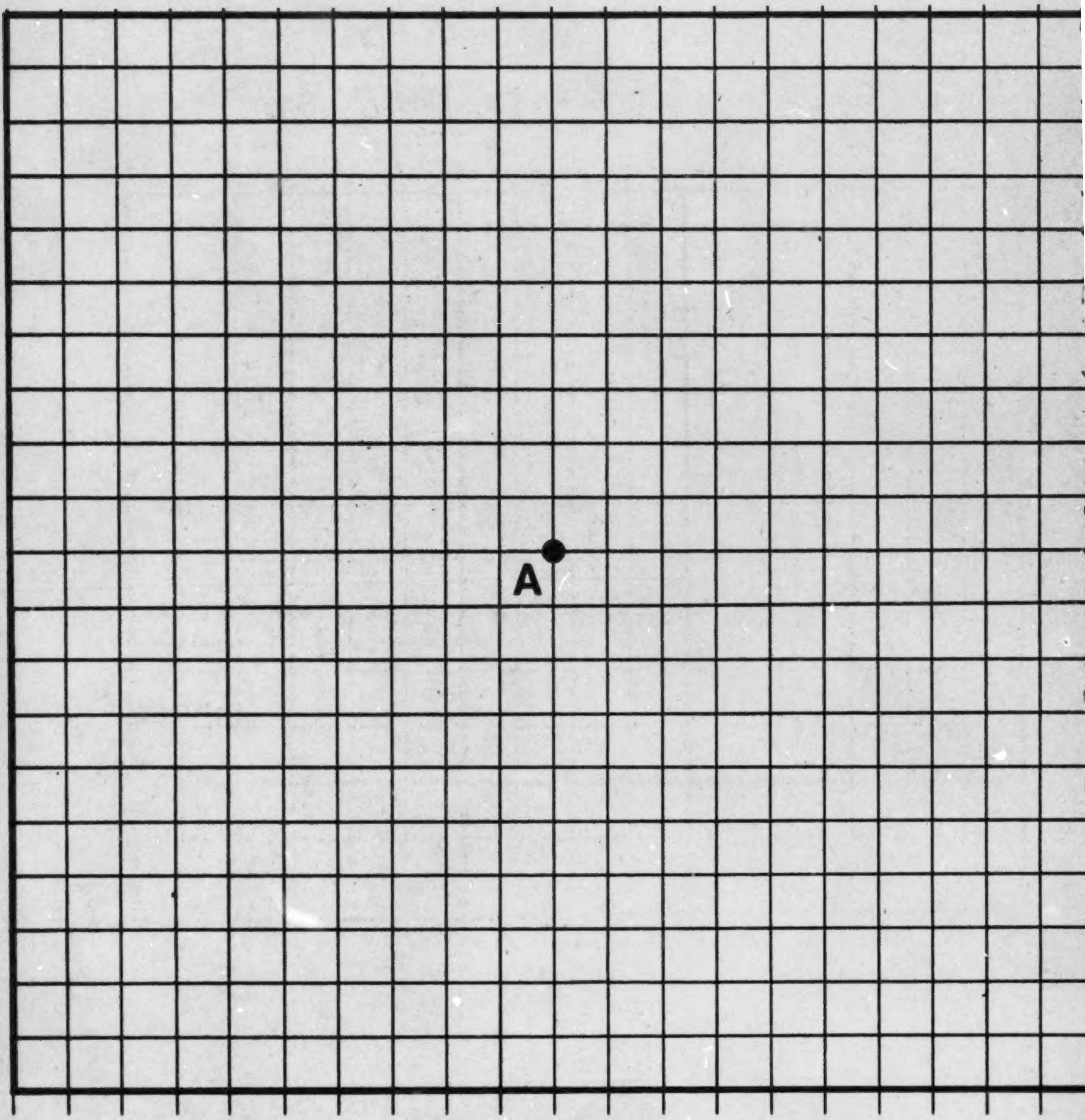
Draw a spiral starting at A. Do not go beyond the border of the large black square.



Name ____________________

G 8 **

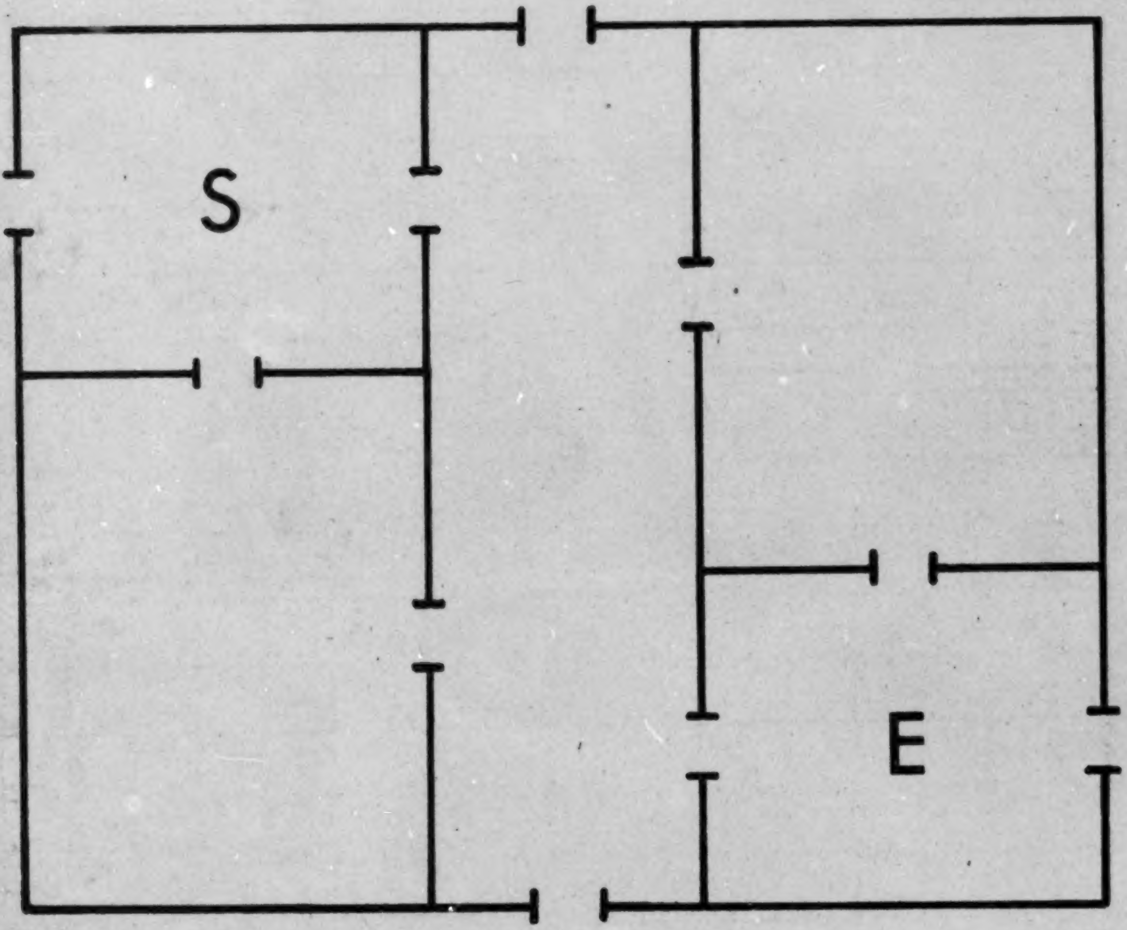
Draw a spiral starting at A. Do not go beyond the border of the large black square.



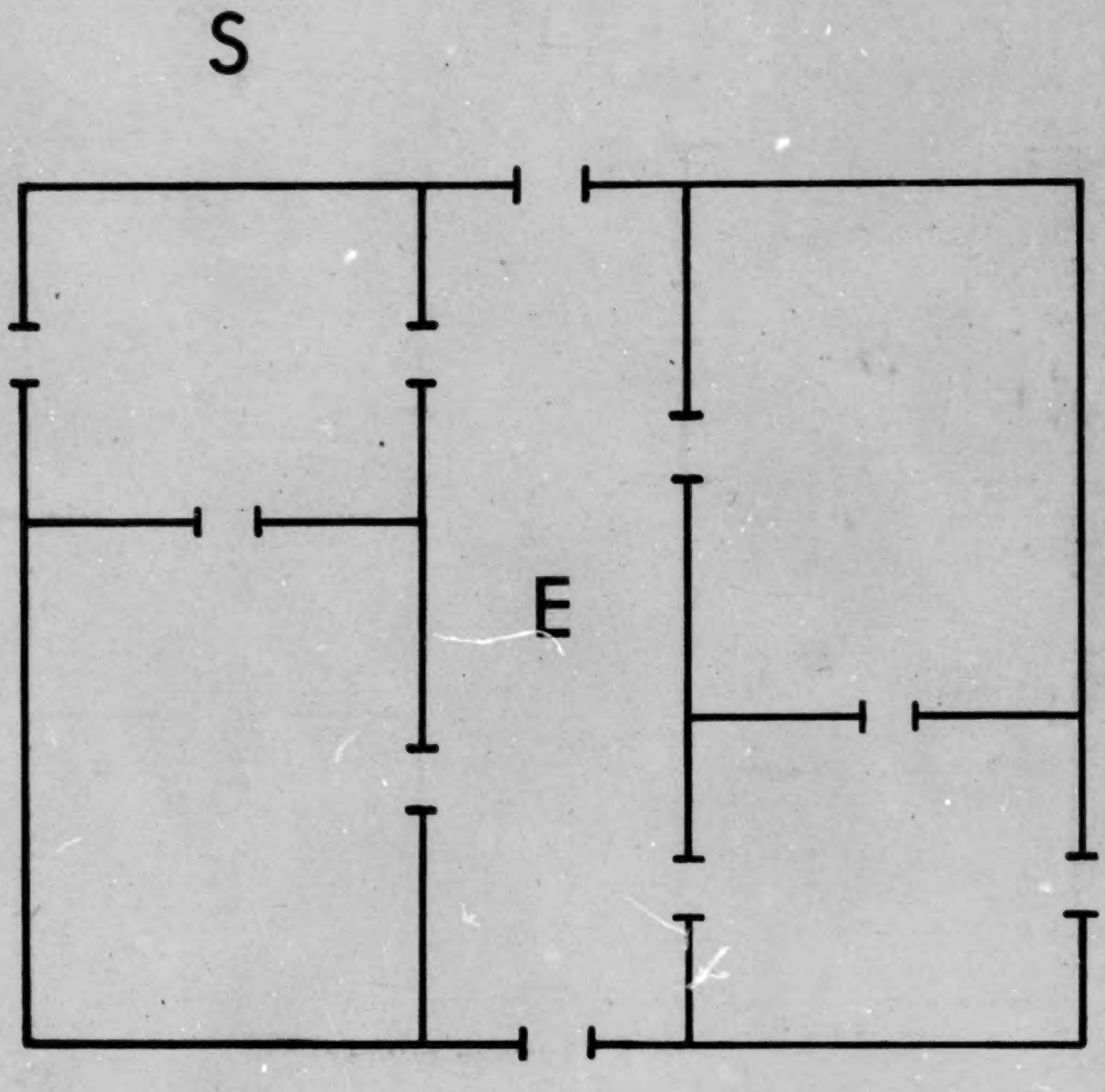
Name ______________________

G 9 *

Find a walk starting at S and ending at E. Use as many doors as you can, but do not use a door more than once.



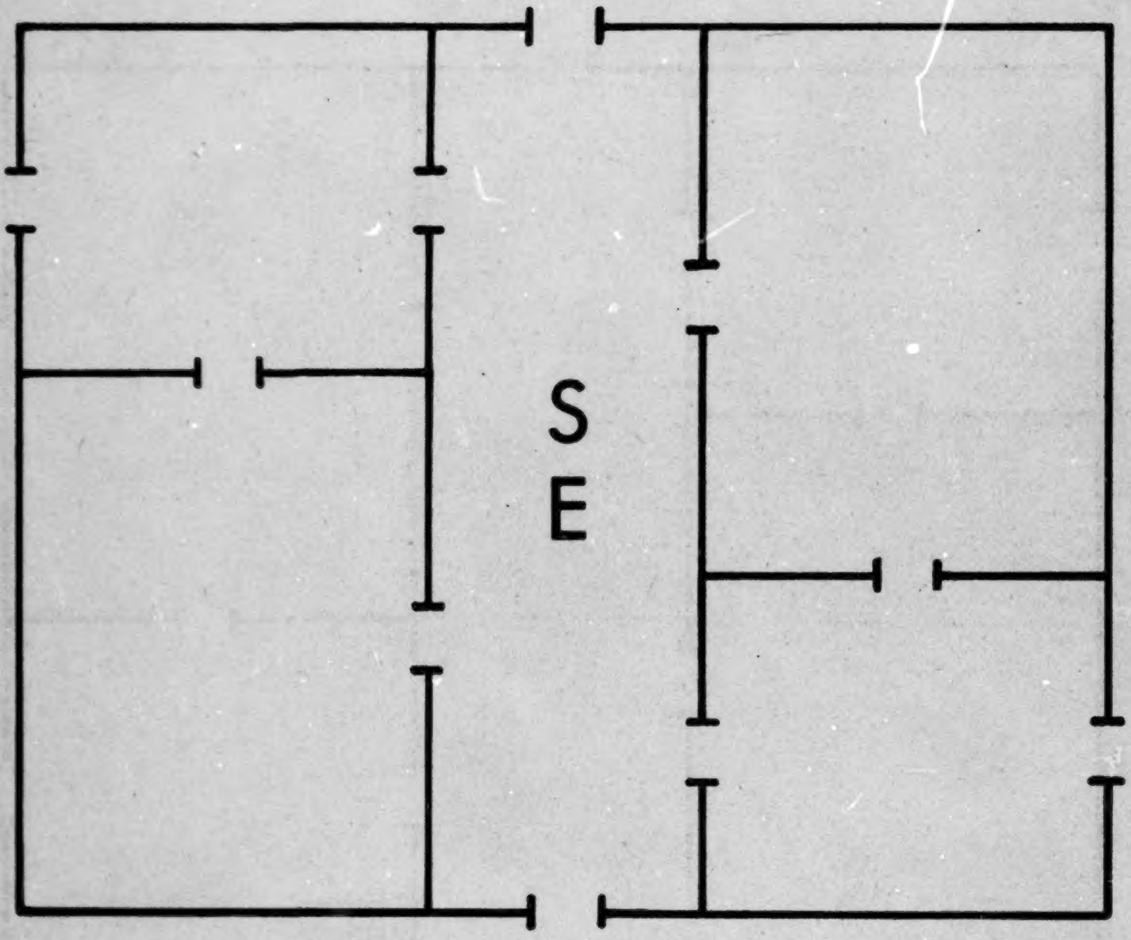
Find a walk starting at S and ending at E. Use as many doors as you can, but do not use a door more than once.



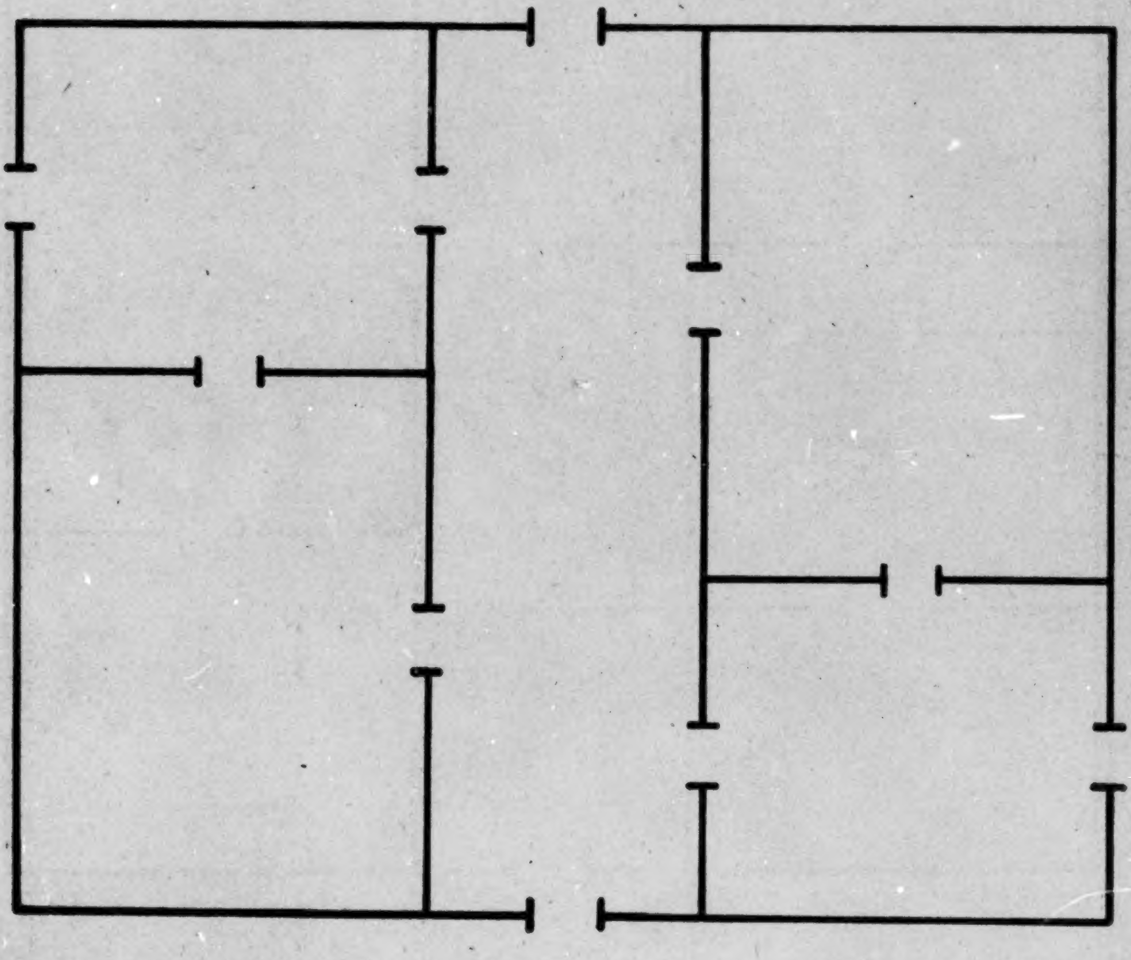
Name ____________________

G 9 **

Find a walk starting at S and ending at E. Use as many doors as you can, but do not use a door more than once.



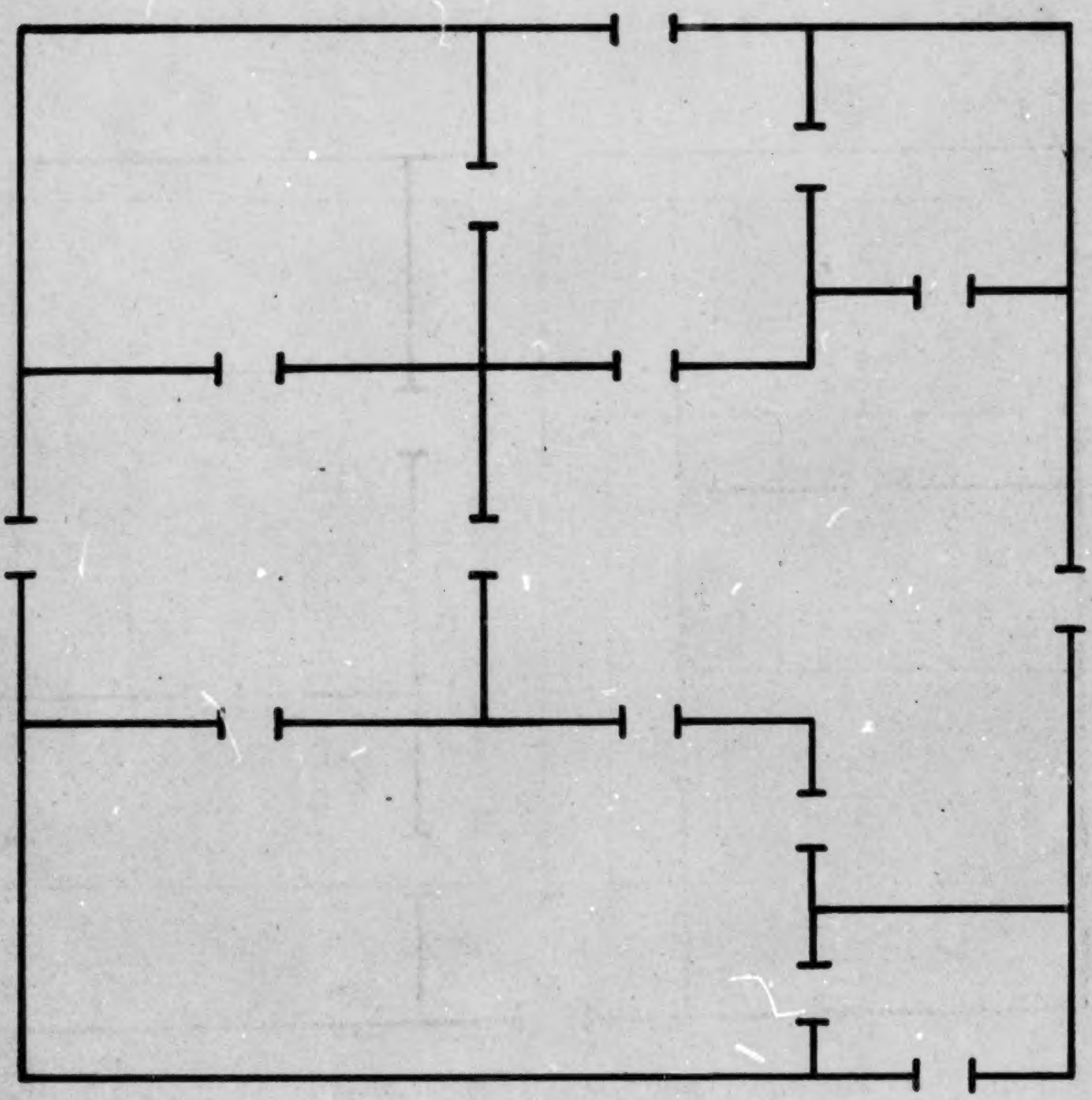
Find a walk using all the doors, but do not use a door more than once. Choose where to start and where to end yourself.



Name ______________________________

G 9 ***

Try to find a tour of this house. A tour uses each door exactly once.



Name ______________________________

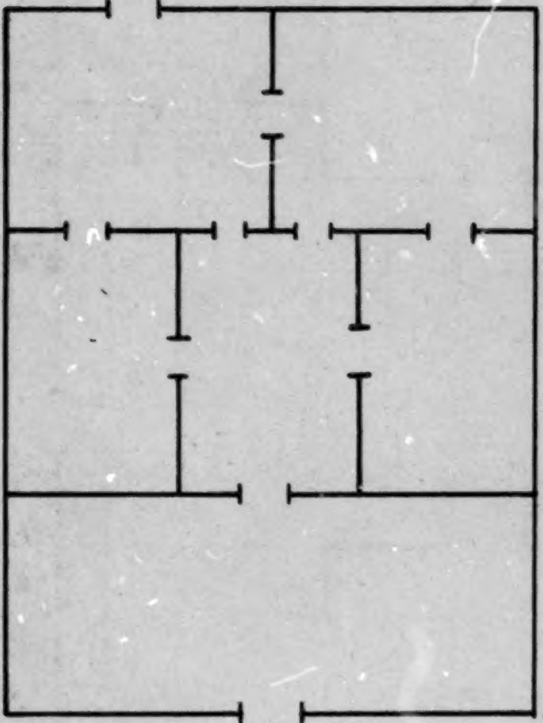
G 9 ****

Try to find tours of these houses. A tour uses each door exactly once.

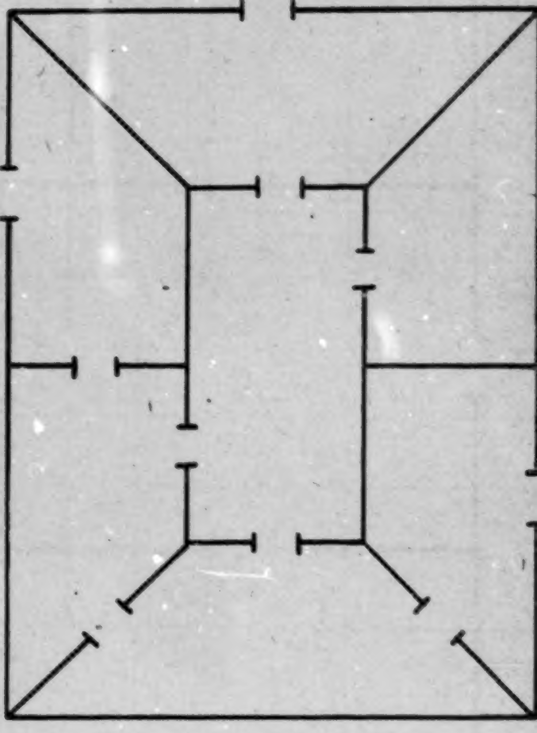
Circle the correct word.

#1. Possible Impossible

#2. Possible Impossible



#1



#2

Try to find tours which start and end at the same place.

Circle the correct word.

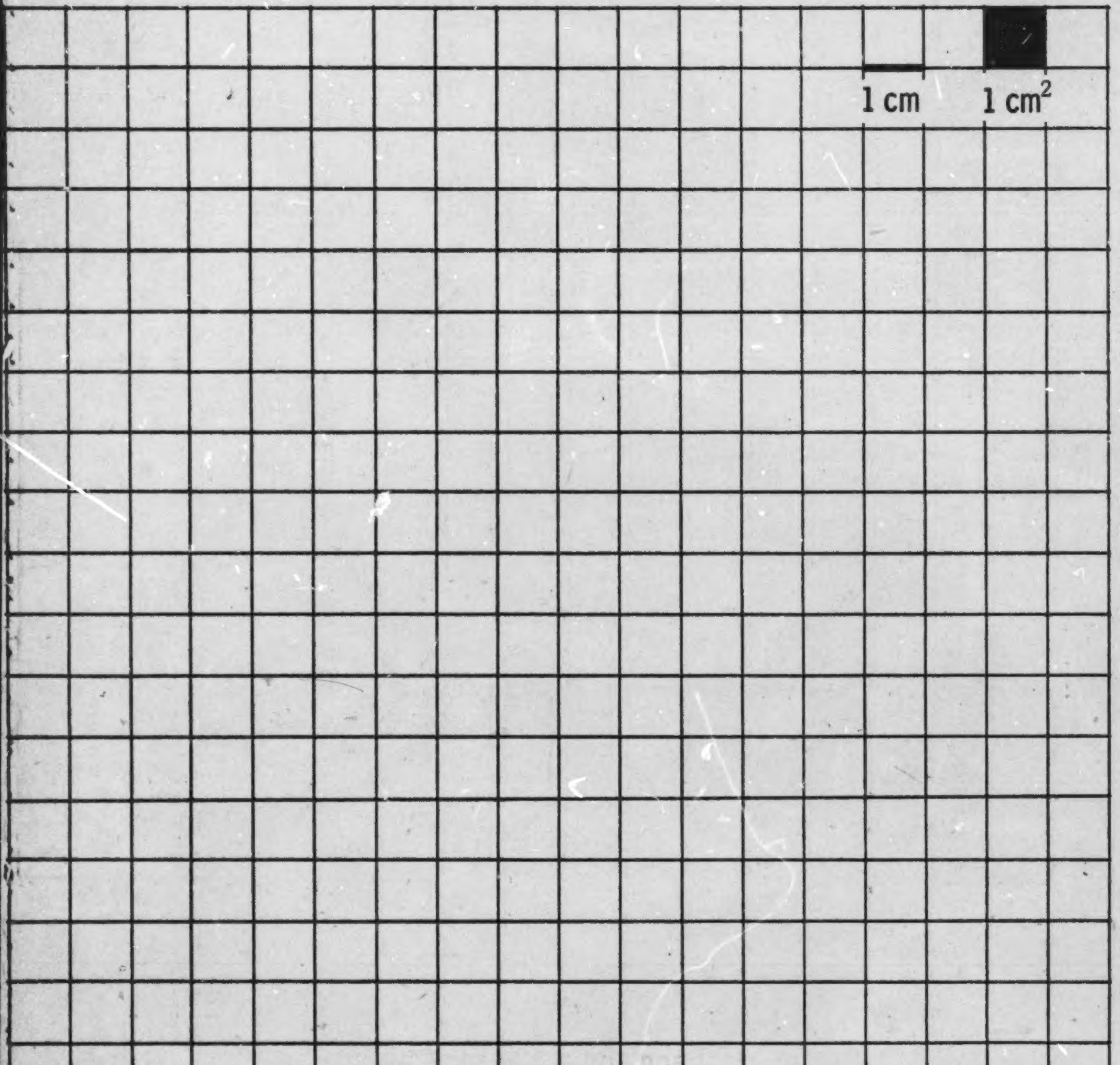
#1. Possible Impossible

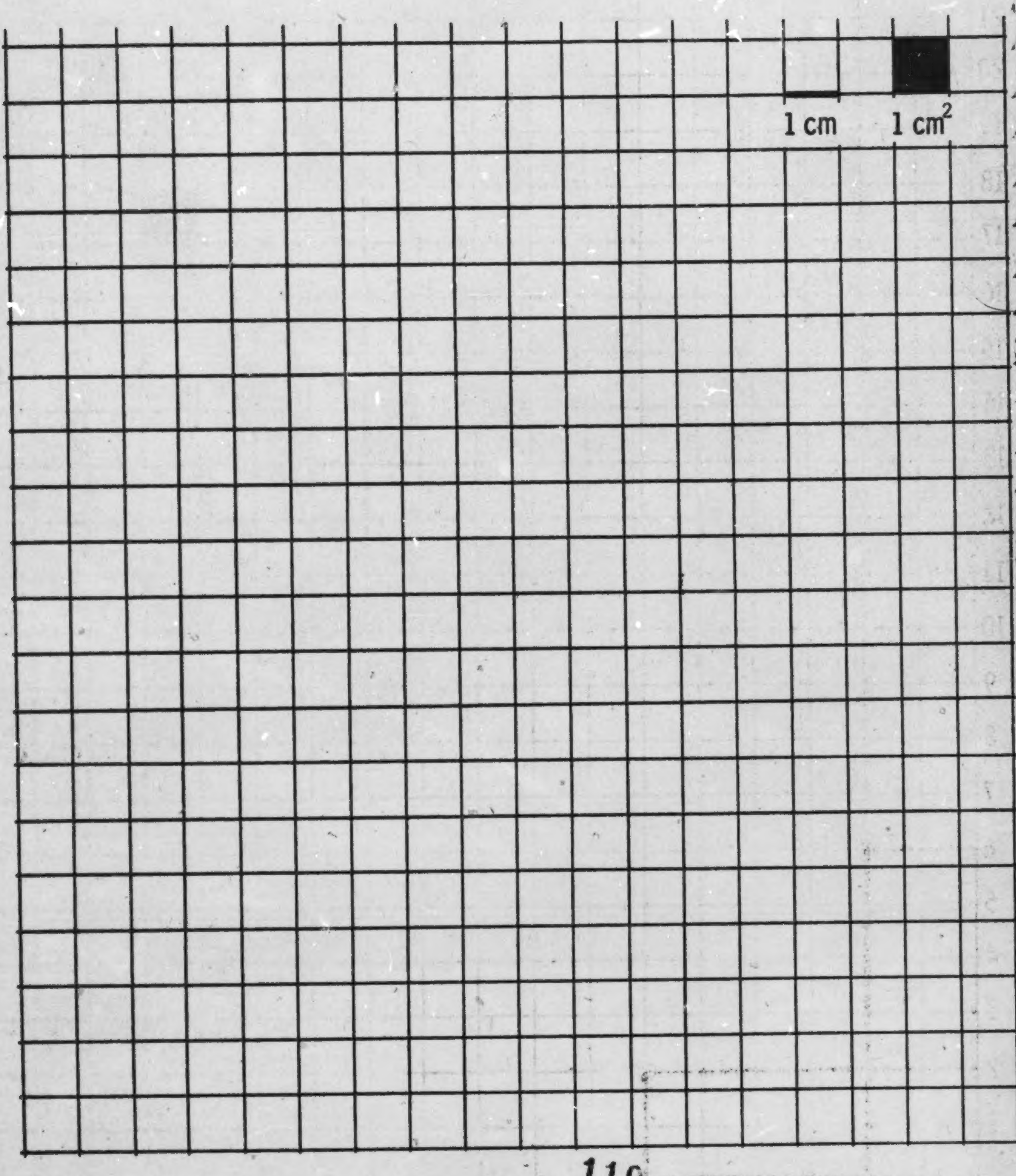
#2. Possible Impossible

Name ______________________

G 10 *

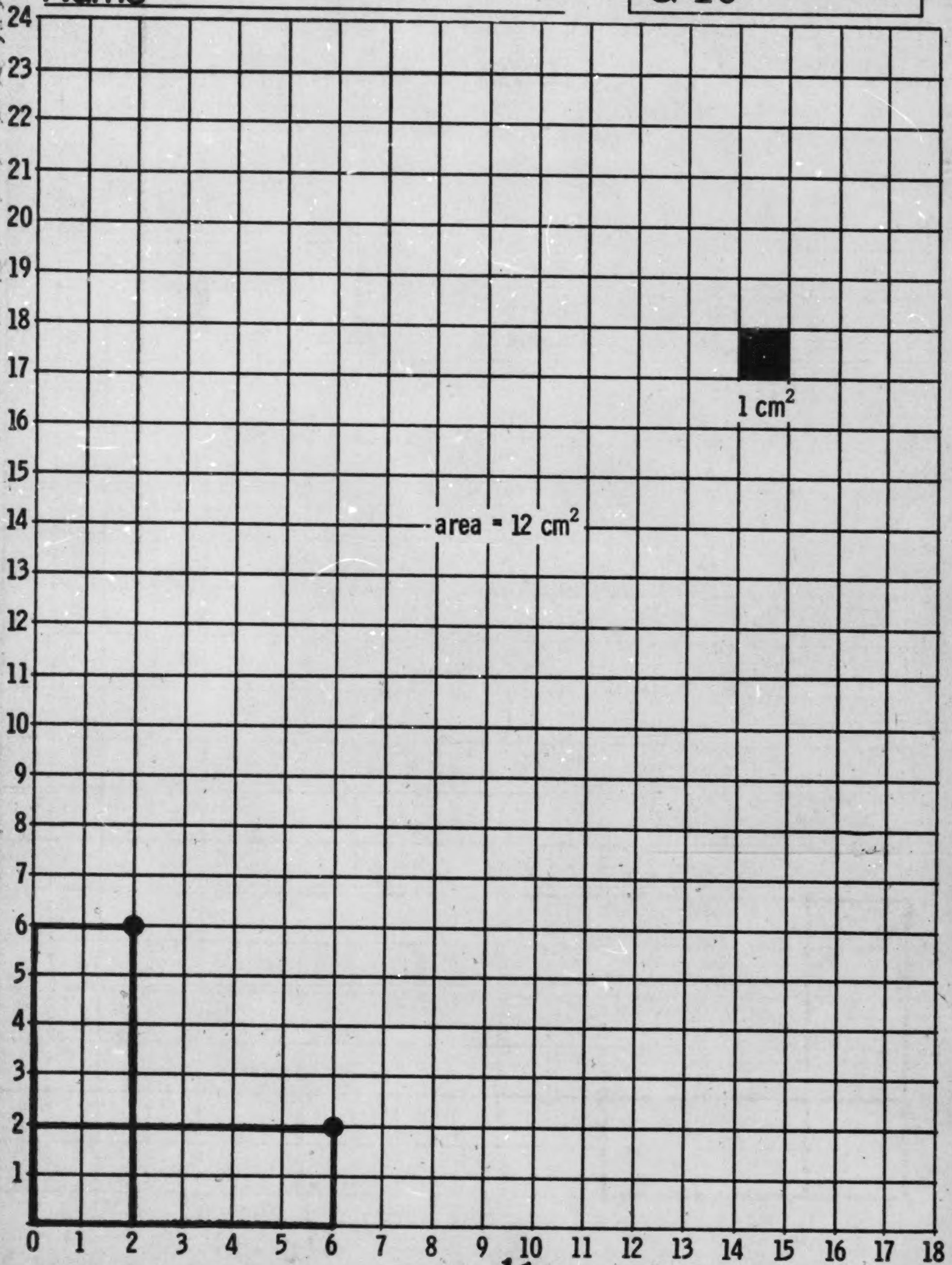
Color several rectangles, each with area 12 cm^2.

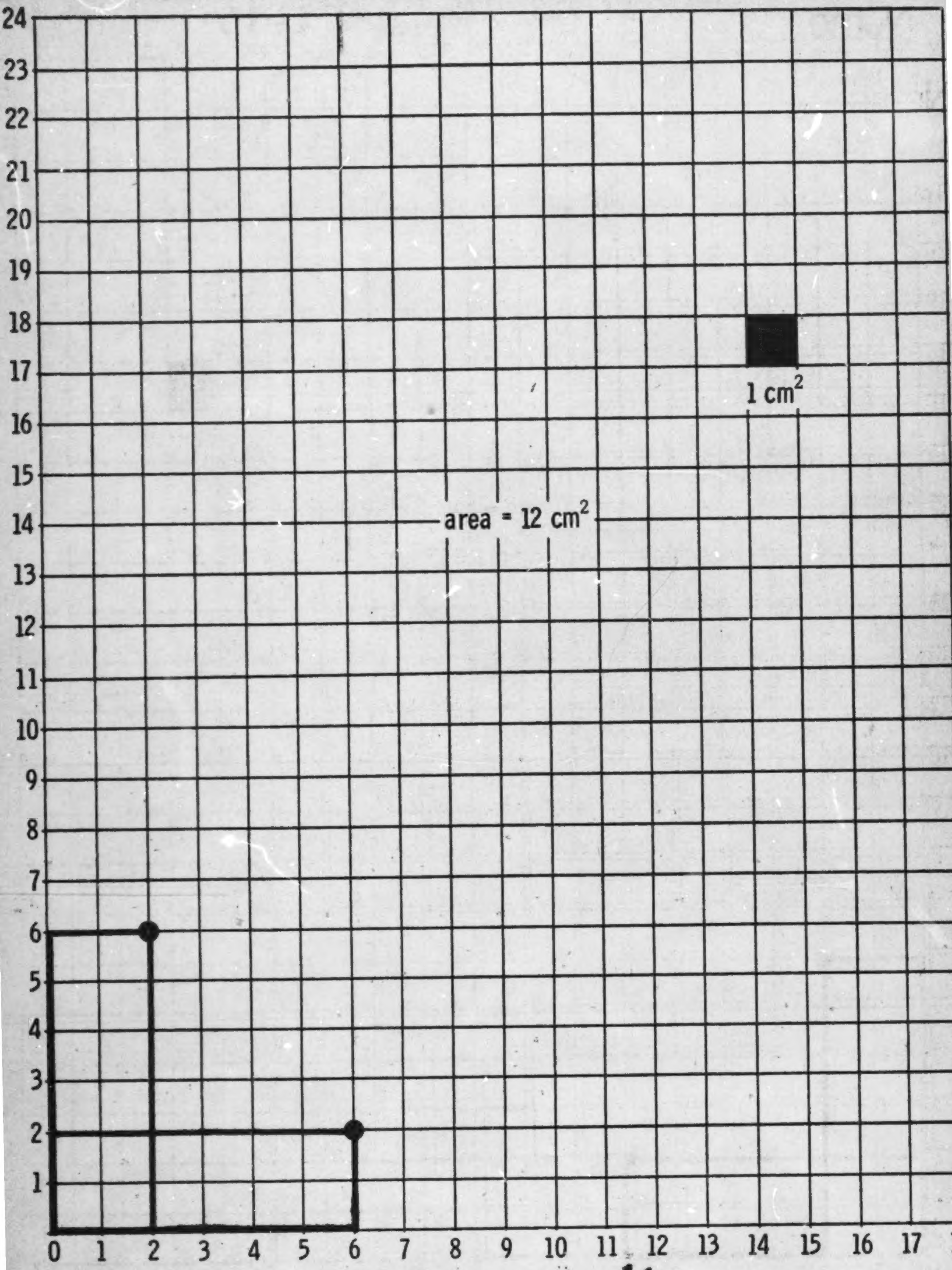



1 cm
1 cm²

Name ______________________

G 10 **


1 cm²
area = 12 cm²



1 cm^2
area = 12 cm^2

Name ______________________

G 11 *

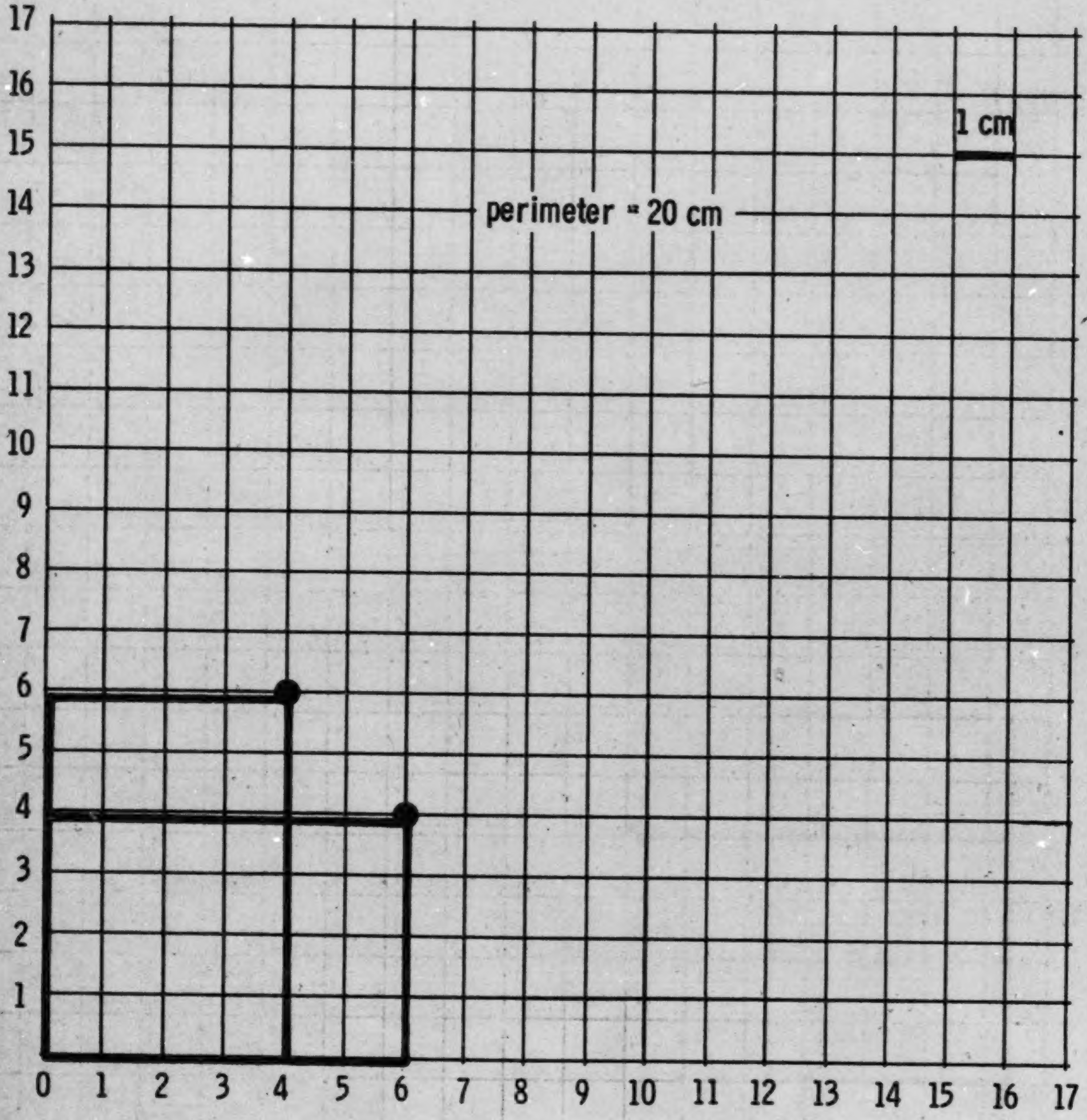
Draw several rectangles each with perimeter 20 cm.

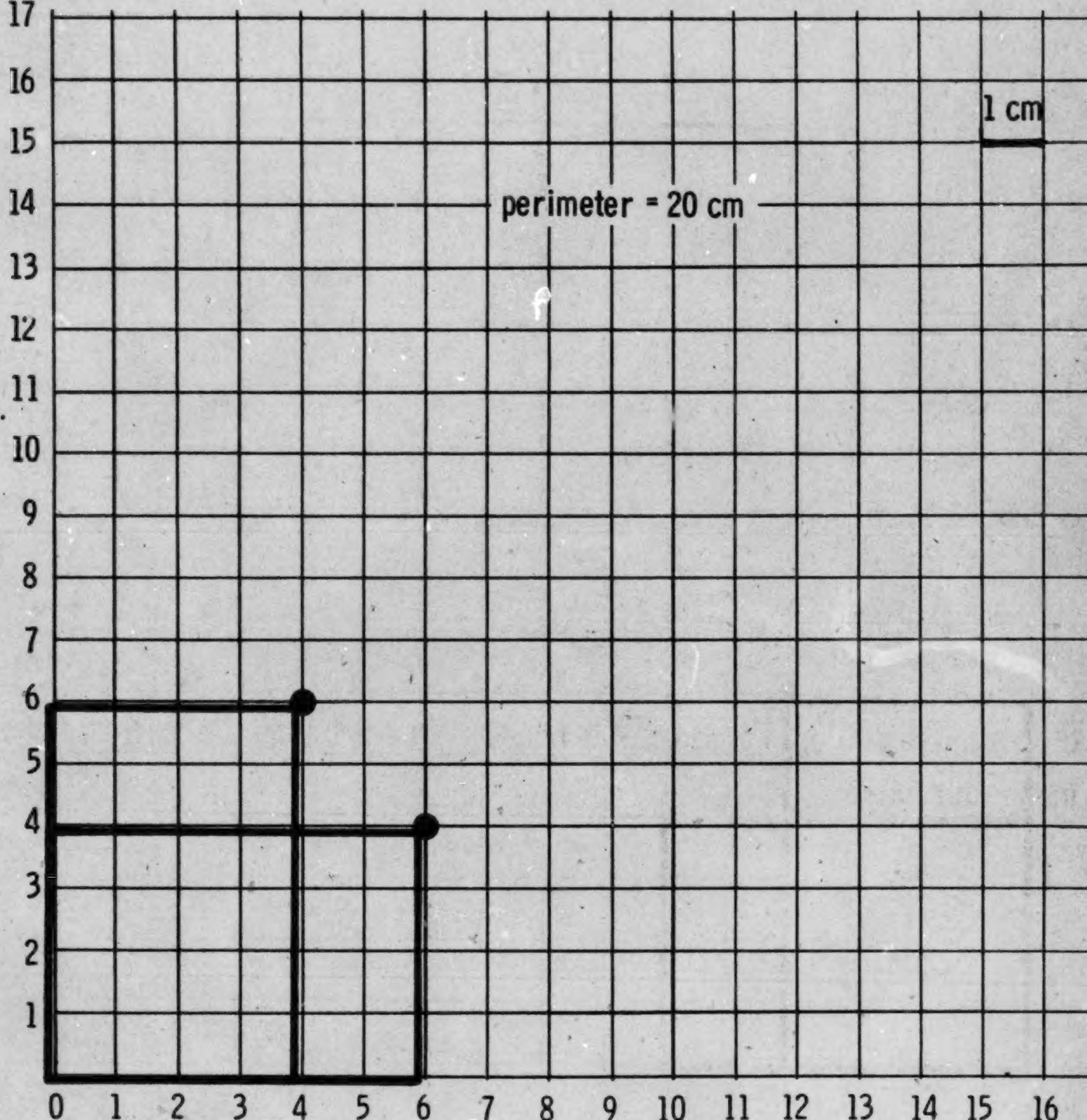
1 cm

1cm

Name ________________________________

G 11 **

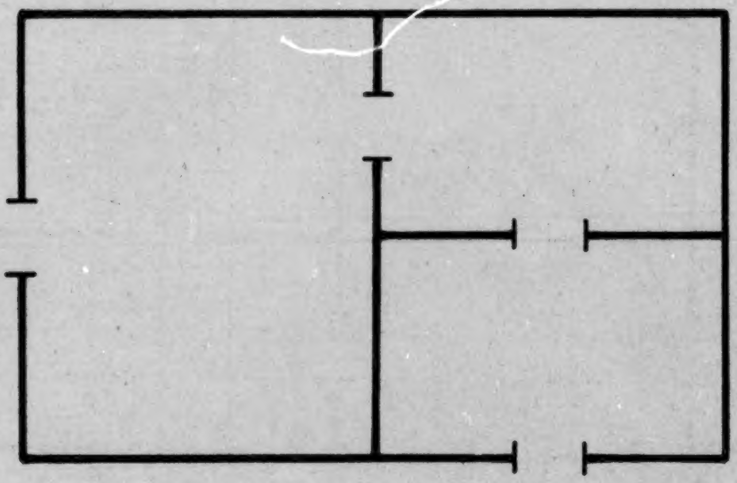

1 cm
perimeter = 20 cm


1 cm
perimeter = 20 cm

Name ________________________________

G 12 *

Find a tour of this house. You may start and end where you like.

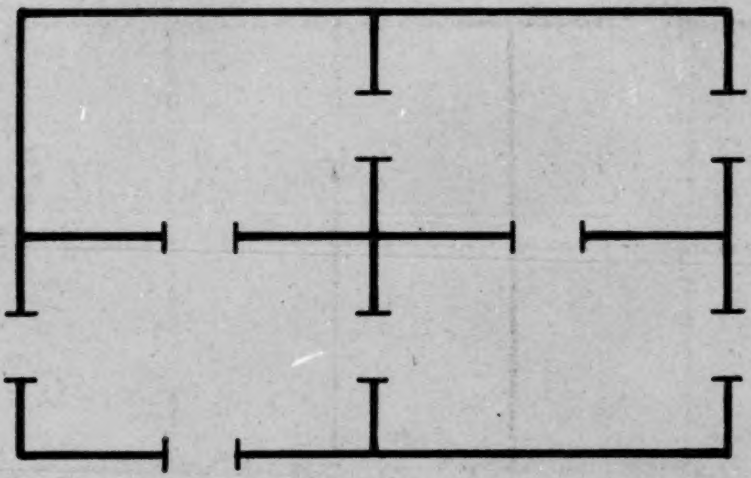


On tracing paper, draw a map of this house. Show a hiking trail corresponding to your tour.

Name ______________________

G 12 **

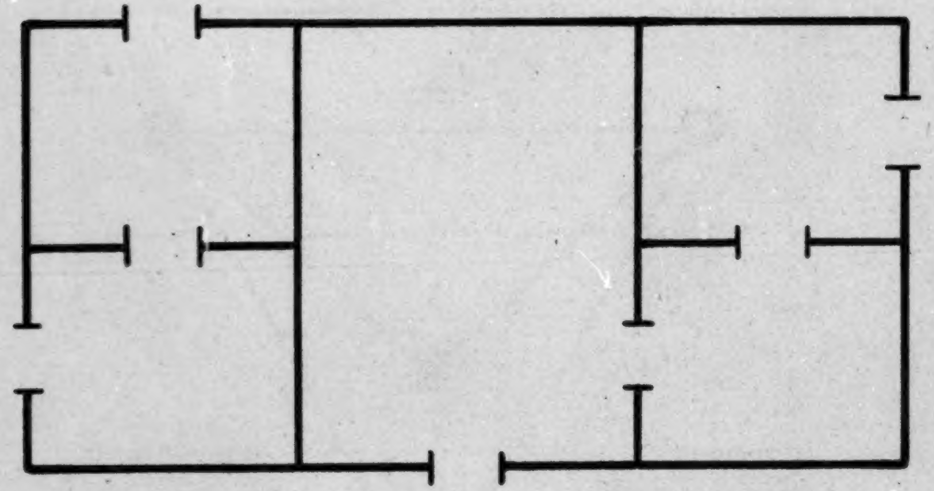
Find a tour of this house. Choose where to start and where to end yourself.



On tracing paper, draw a map of this house. Show a hiking trail corresponding to your tour.

Name ______________________________

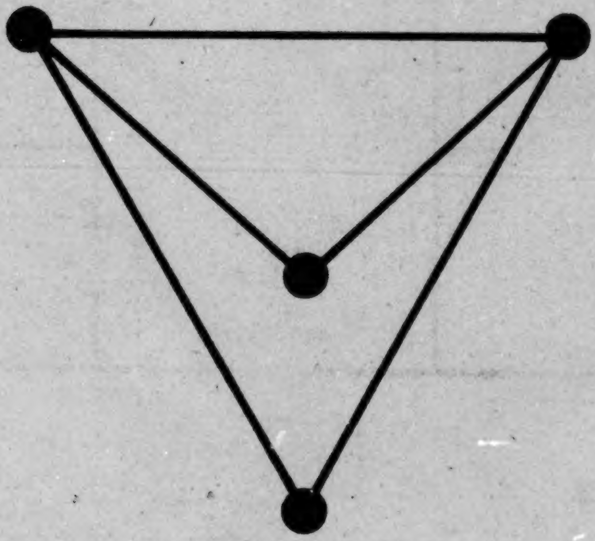
Find a tour of this house. You may start and end where you like.



On tracing paper, draw a map of this house. Show a hiking trail corresponding to your tour.

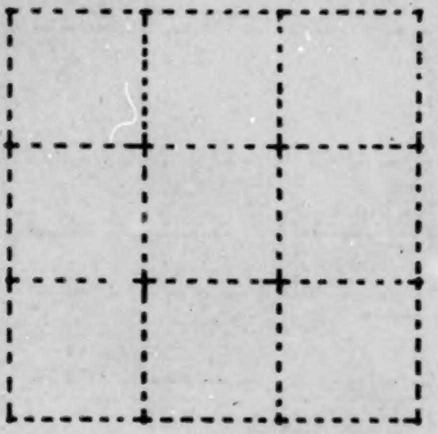
Name ________________________ G 12 ****

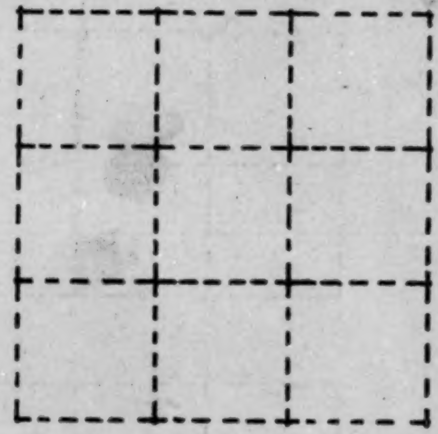
Draw a house plan for this map.

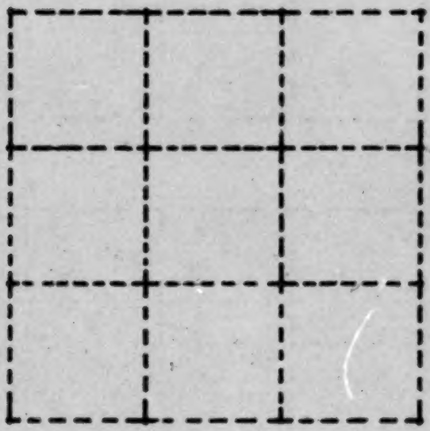


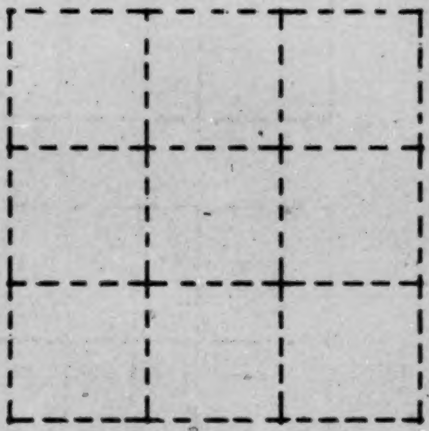
Name ______________________ **G 13** *

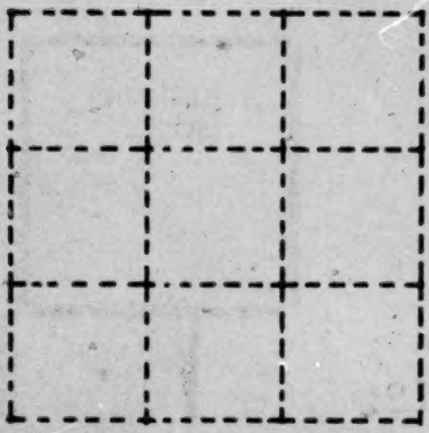
Try to find the highest score in the tracing game for this picture.









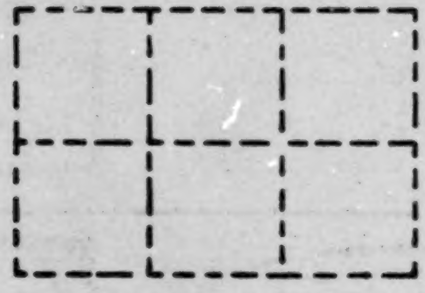


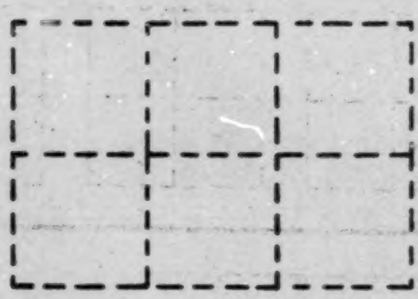
HIGHEST
SCORE

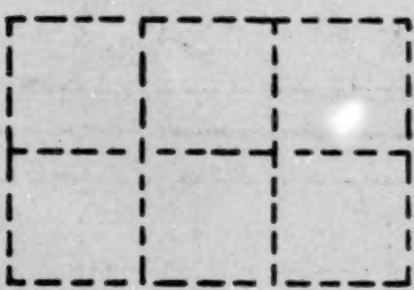
Name ______________________

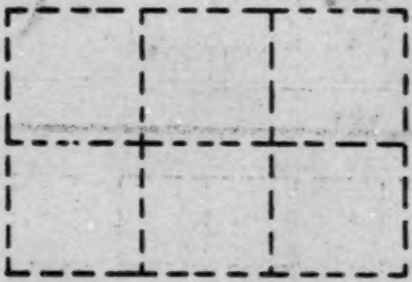
G 13 **

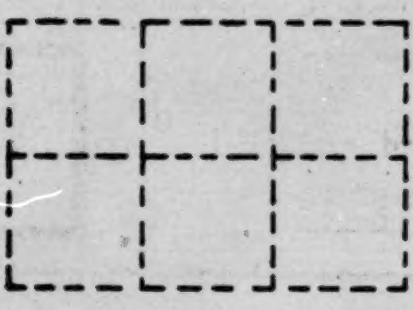
Try to find the highest score in the tracing game for this picture.

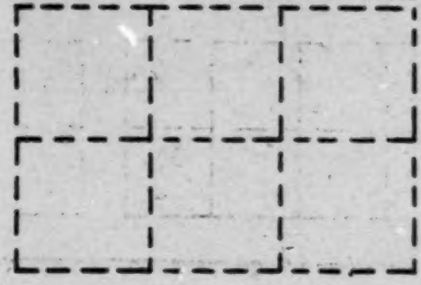


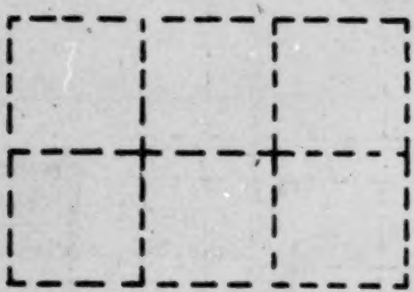










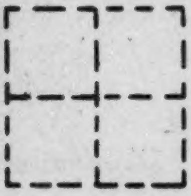


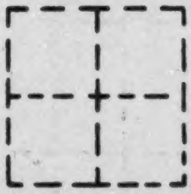
HIGHEST SCORE

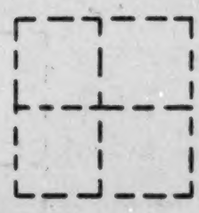
Name ____________________

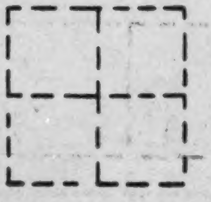
G 13 ***

Try to find the highest score in the tracing game for these pictures.

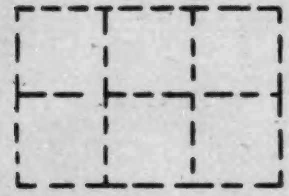






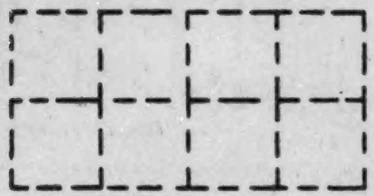


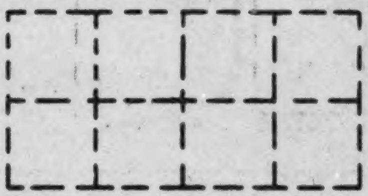
HIGHEST SCORE

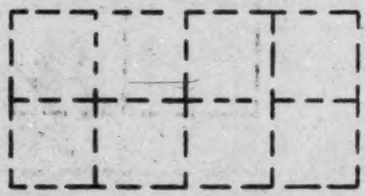


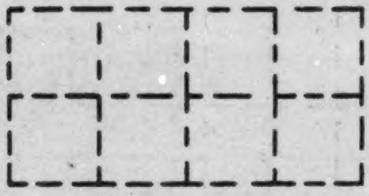
Copy your answer from Worksheet G13**

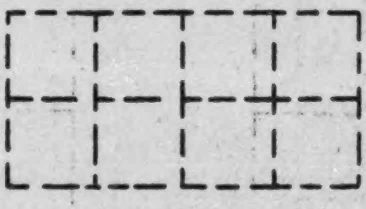
HIGHEST SCORE



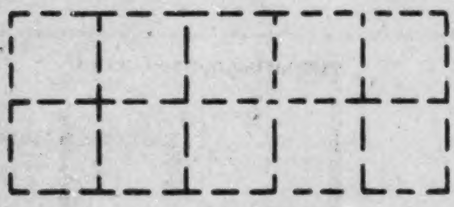


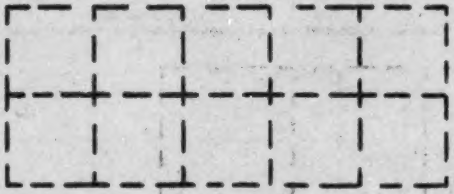


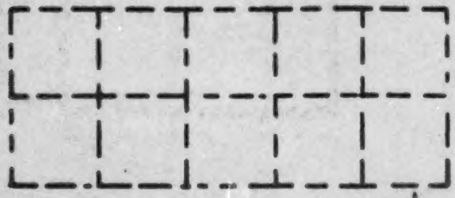


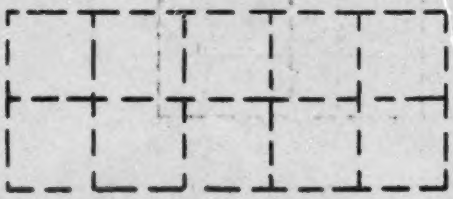


HIGHEST SCORE







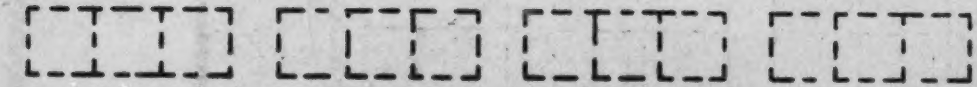


HIGHEST SCORE

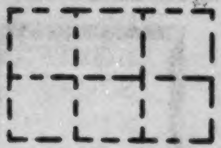
Name ______________________

G 13 **

Try to find the highest score in the tracing game for these pictures.

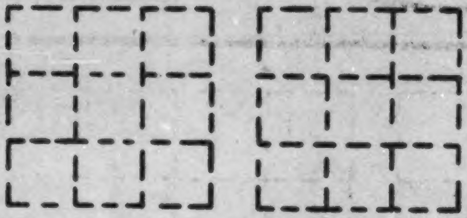


HIGHEST SCORE



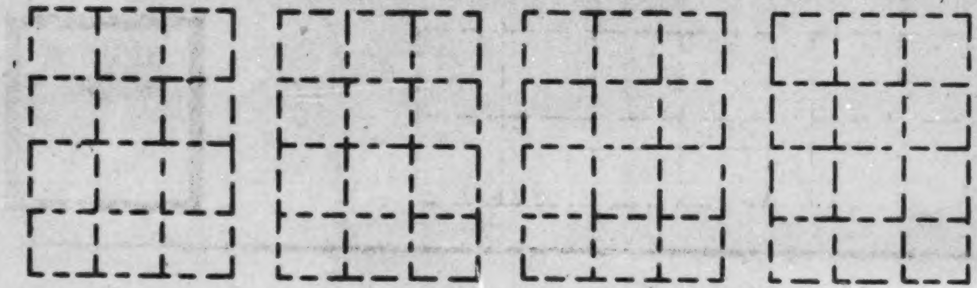
Copy your answer from Worksheet G13**

HIGHEST SCORE

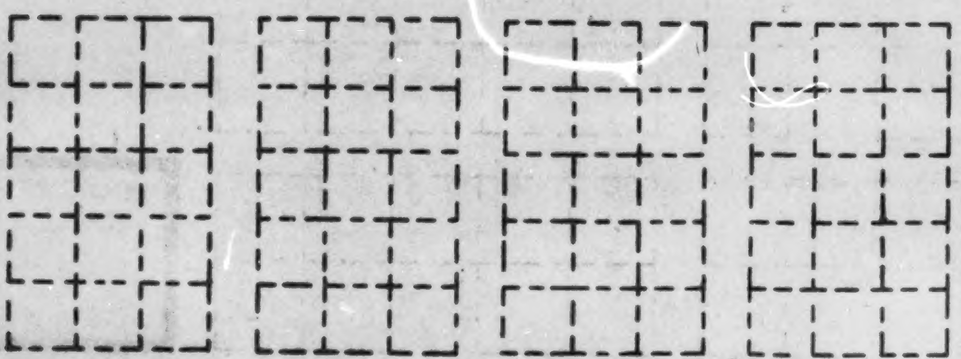


Copy your answer from Worksheet G13*

HIGHEST SCORE



HIGHEST SCORE

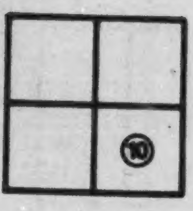


HIGHEST SCORE

Name ____________________

W 3 *

What number is on the Minicomputer?



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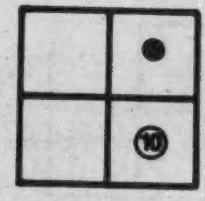

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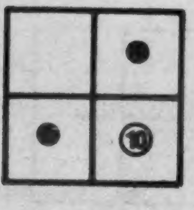

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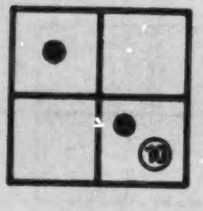

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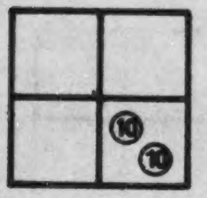

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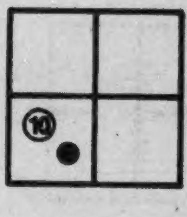

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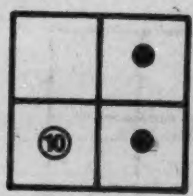

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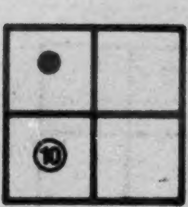

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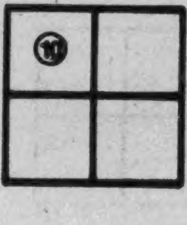

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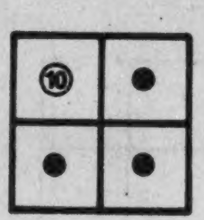
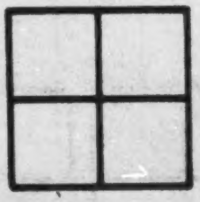


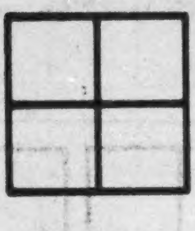
= ________

Name ______________________

W 3 **

Put these numbers on the Minicomputer. Use at least one ⑩ -checker for each number.

20 =


21 =


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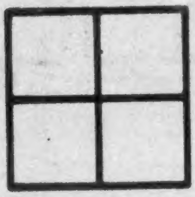
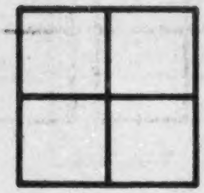
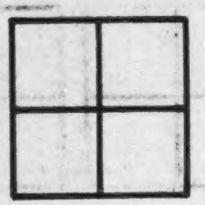


42 =


45 =


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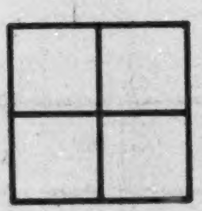
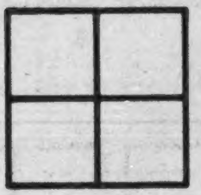


34 =


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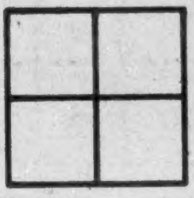

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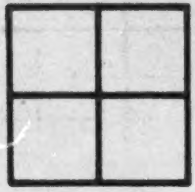

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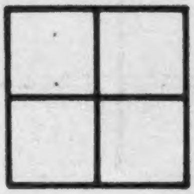
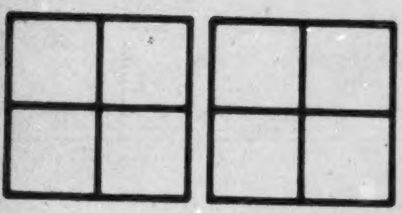


Name ______________________________

W 3 ***

Put numbers you like on the Minicomputer. Use at least two ⑩ -checkers for each number.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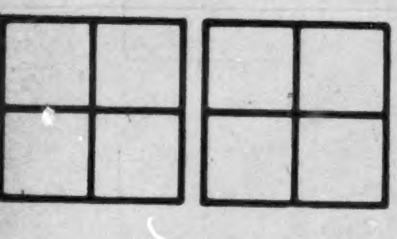
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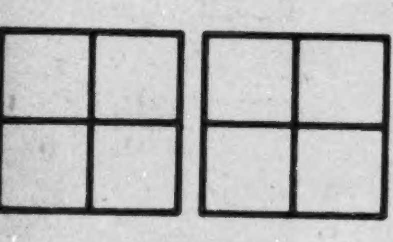
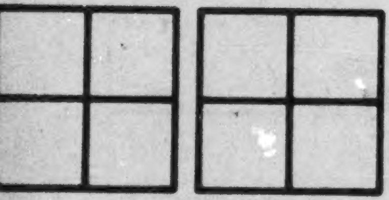

= ______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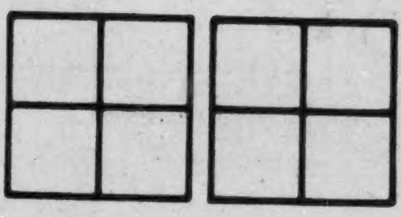
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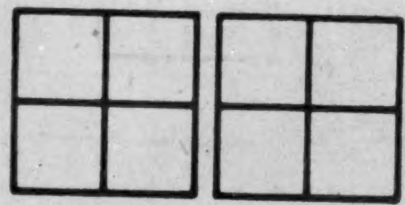
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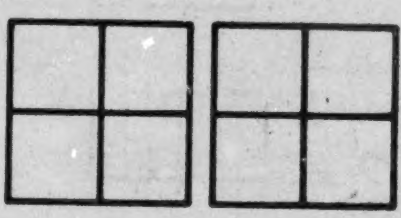
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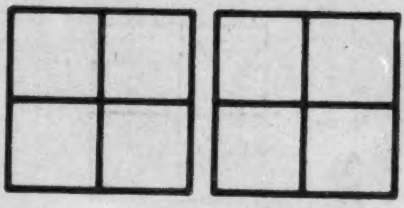
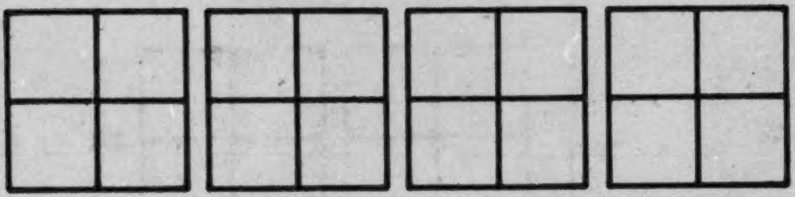

= ______

Name ______________________________

W 3 **

Put numbers you like on the Minicomputer. Use at least one ⑩ -checker and one negative checker for each number.



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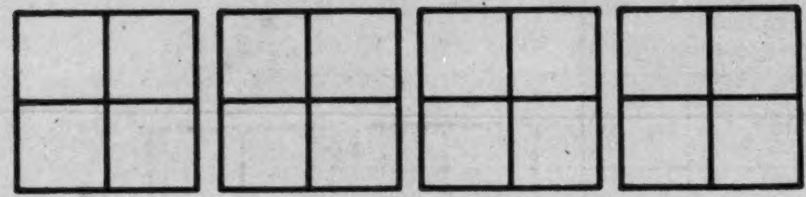

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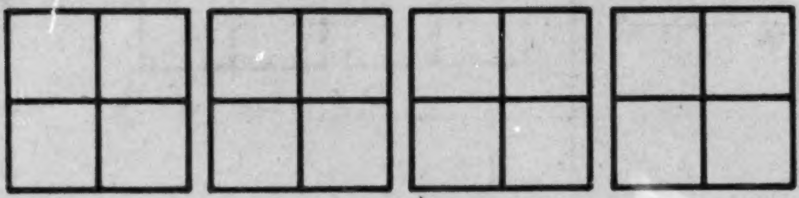

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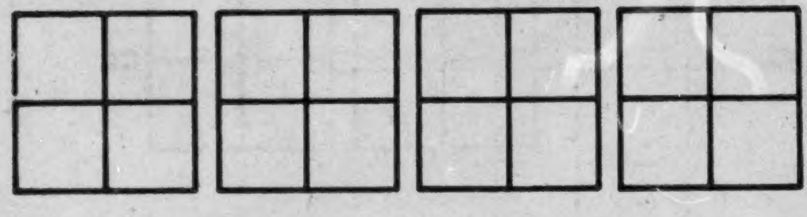

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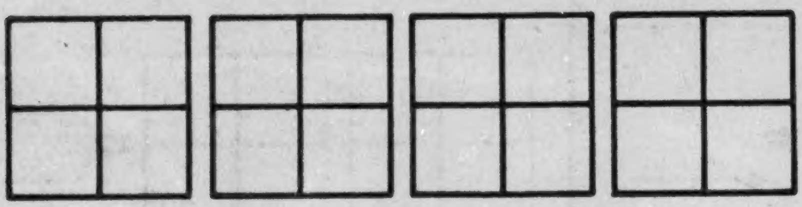

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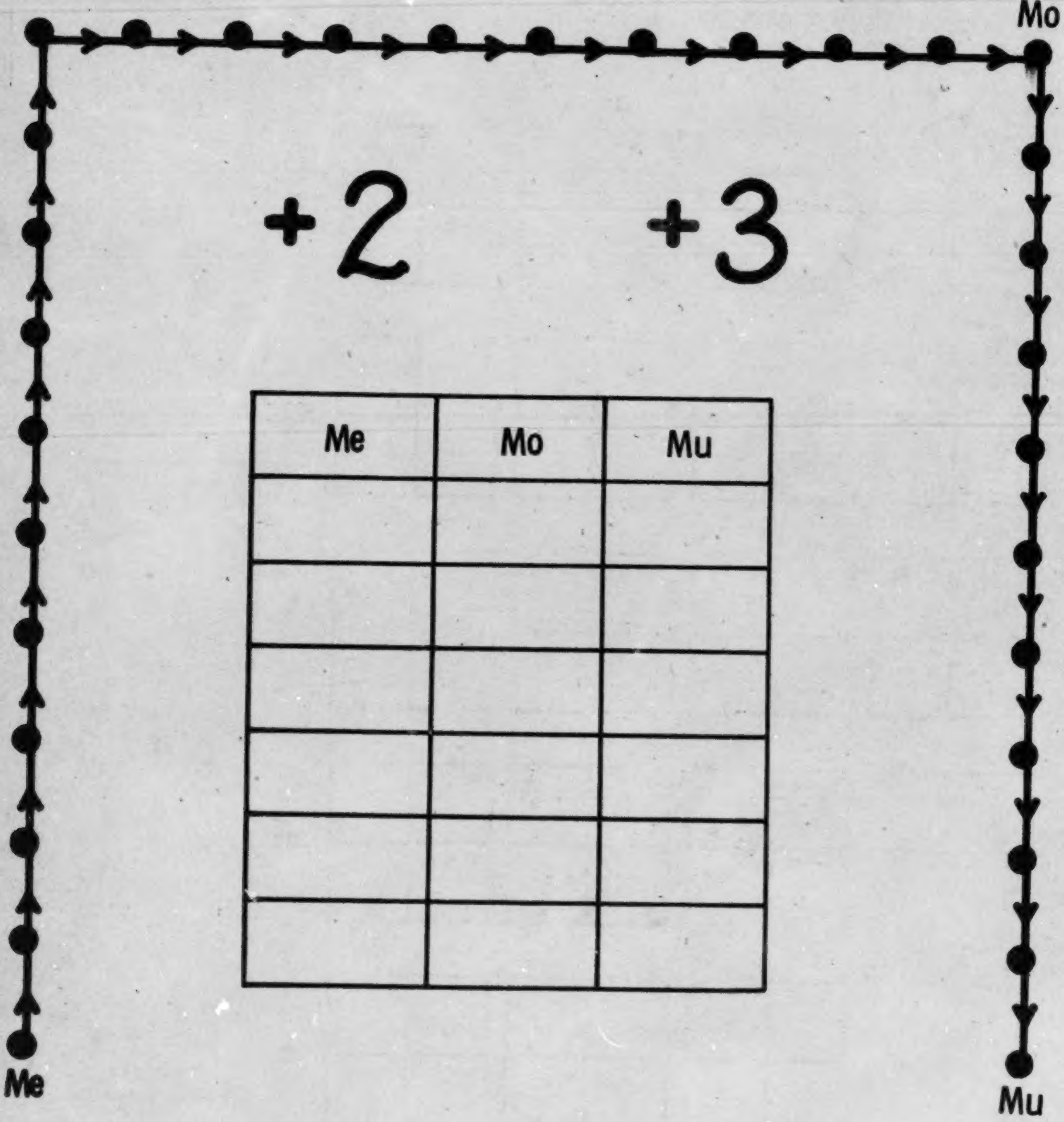
Name ________________________

W 17



+2 +3

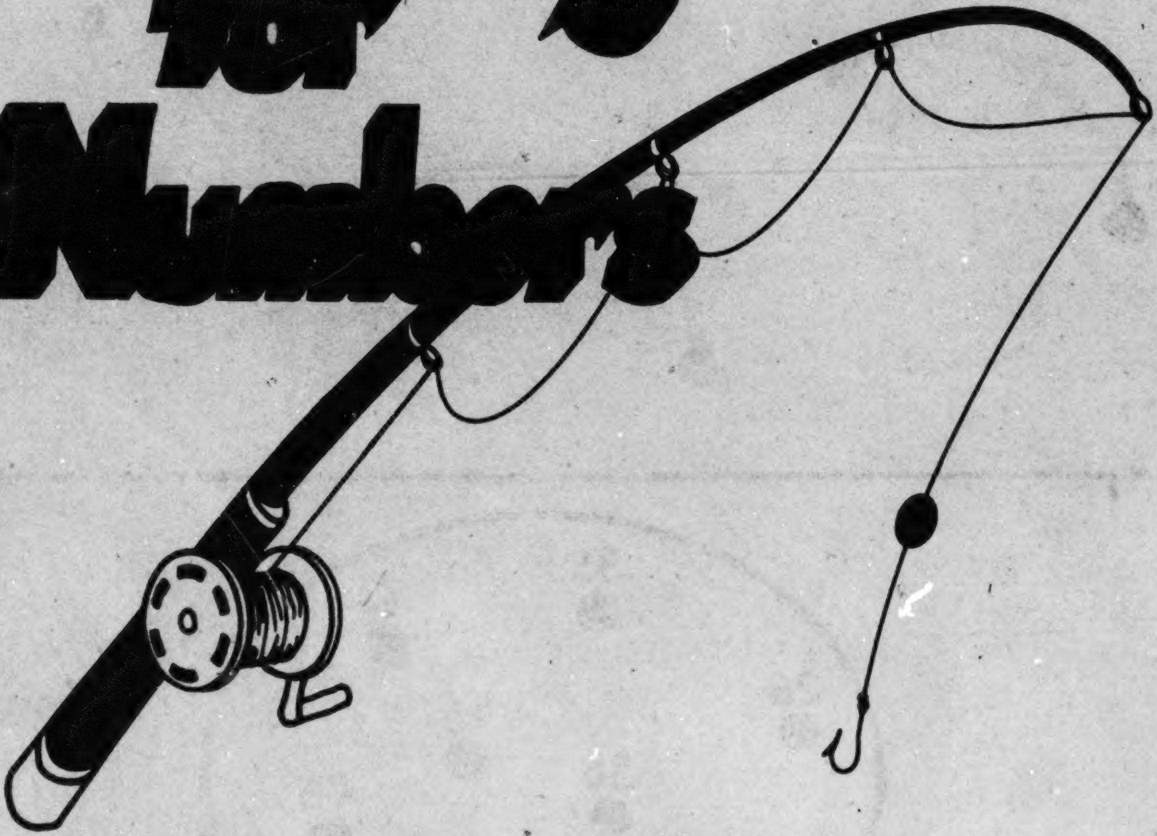
Me	Mo	Mu

Copyright © 1979 CEMREL, Inc.

Name ______________________________

3-44901

Fishing for Numbers

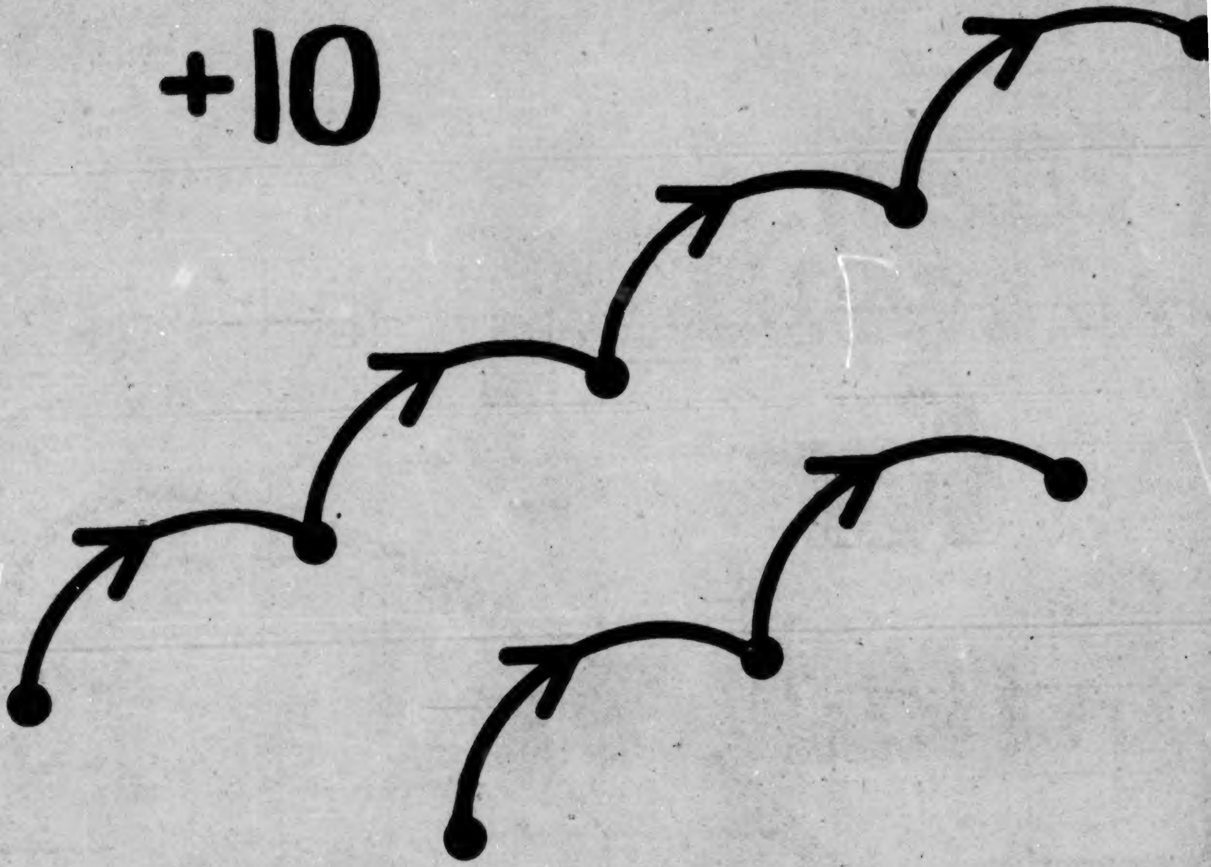


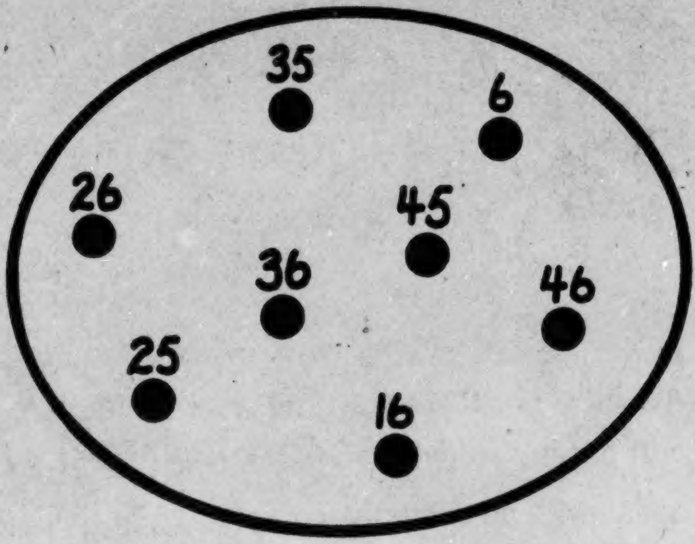
In each situation, put the numbers in the black string into the picture. Sometimes you will put the numbers into a string picture, sometimes into an arrow picture, sometimes on the Minicomputer, and sometimes in number stories. Use each number exactly once.

PART IV

MAY 1 6 1980

+10




35
6
26
45
36
46
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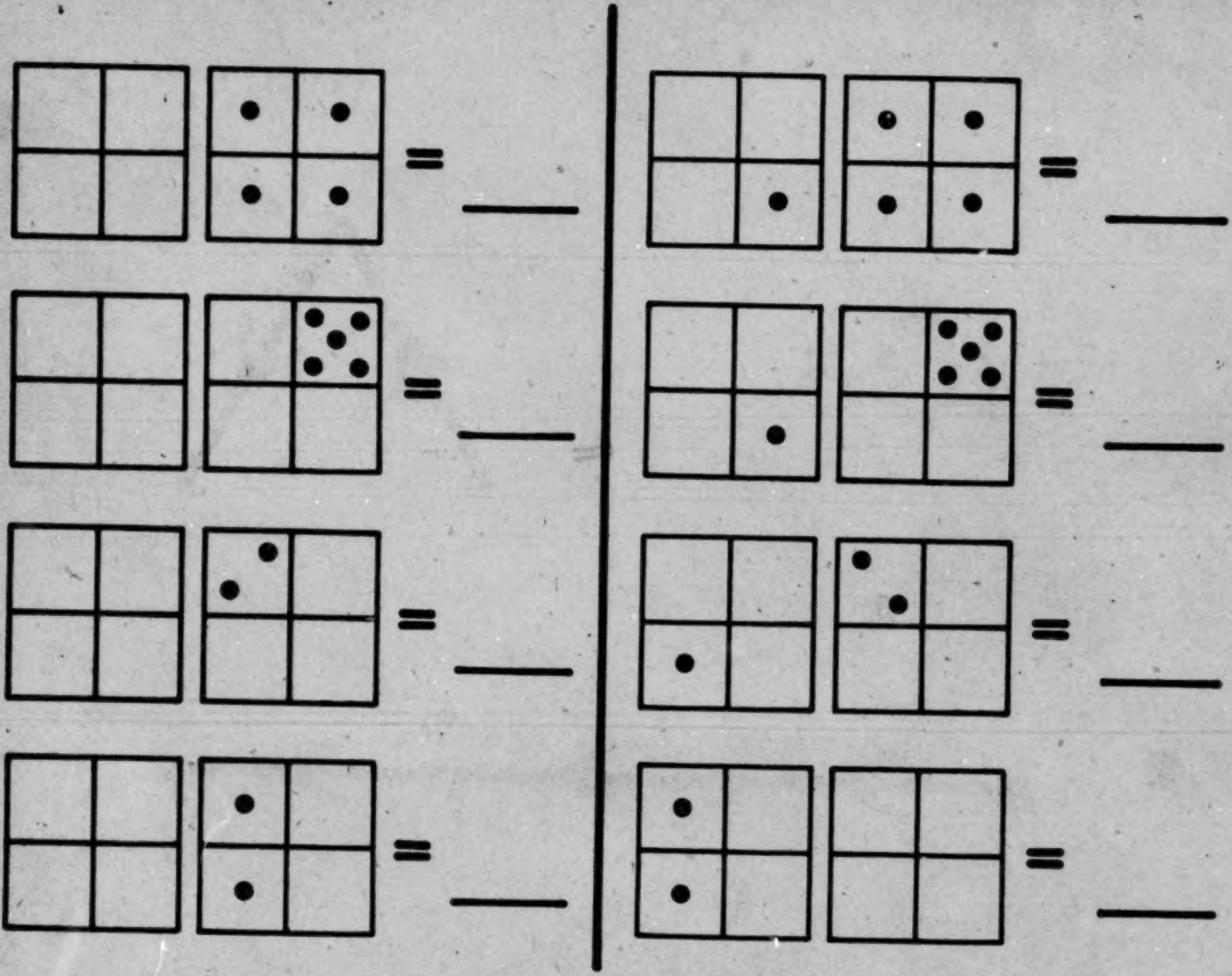
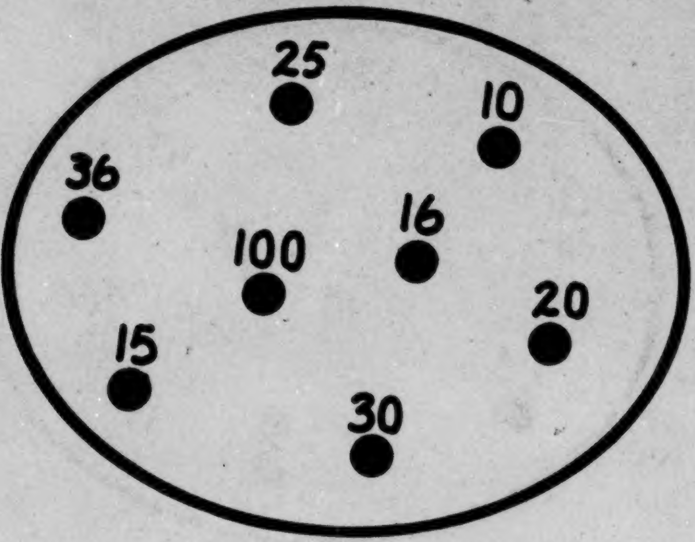
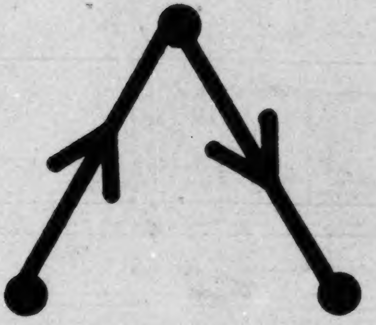
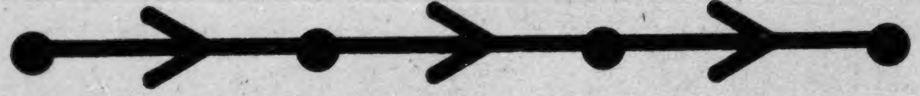
16

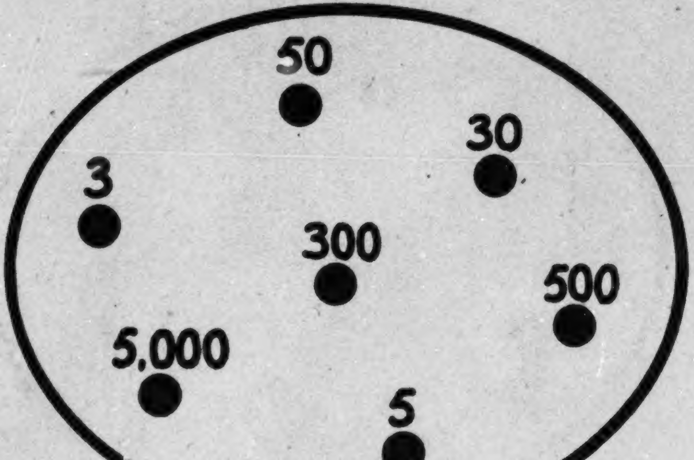




10×






50
30
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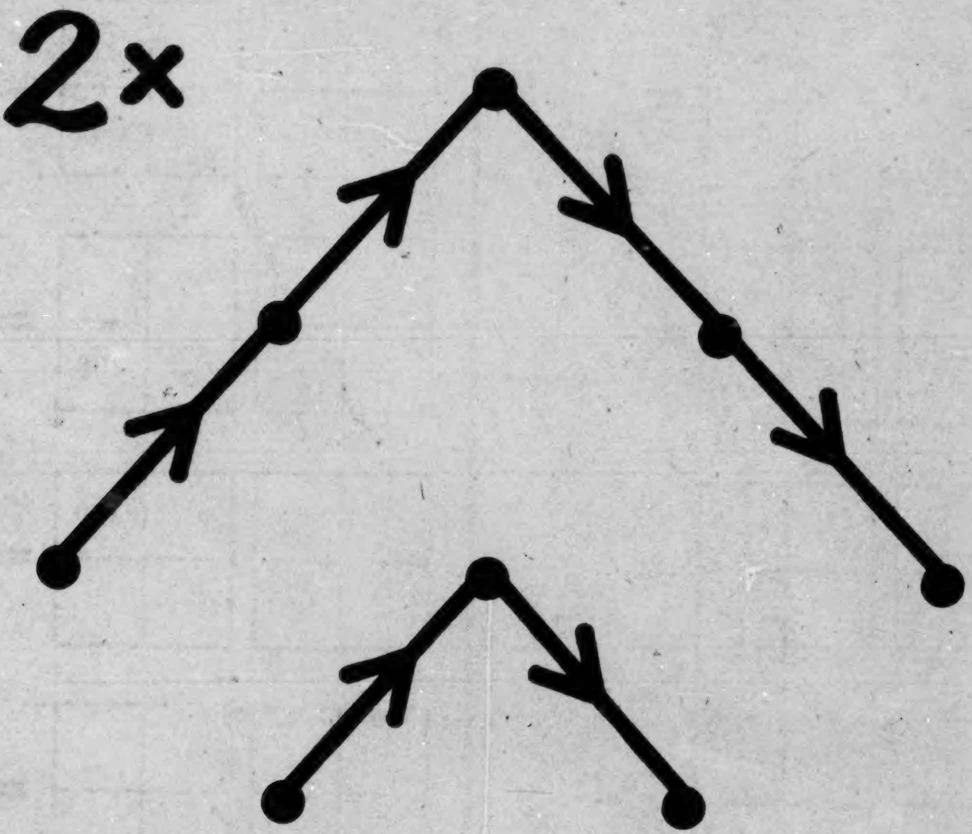
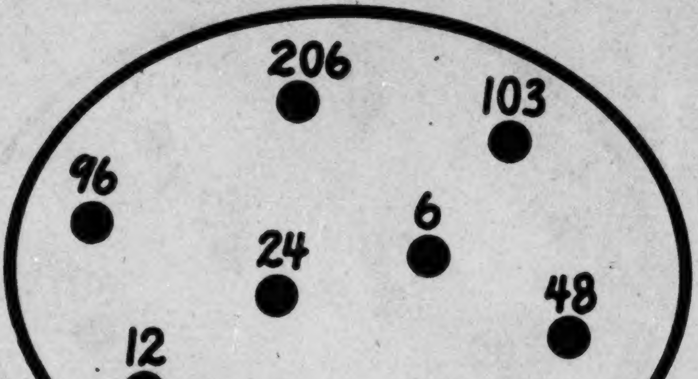
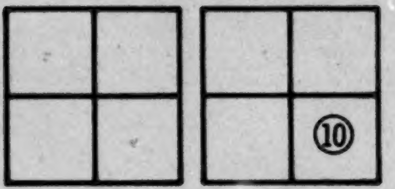

2×




⑩

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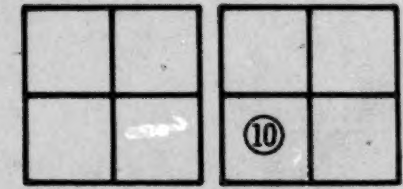
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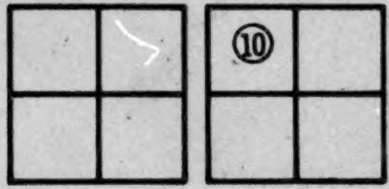
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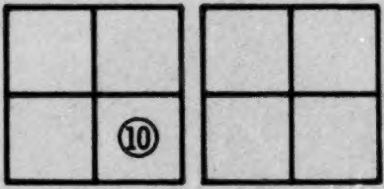
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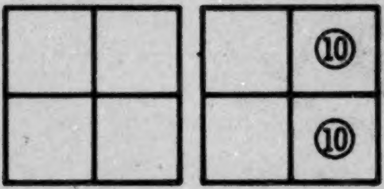
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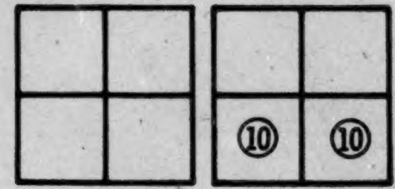
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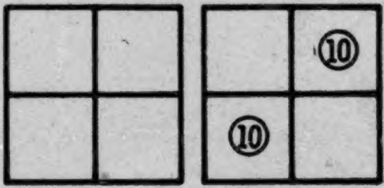
⑩
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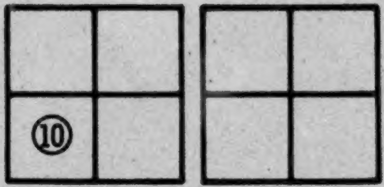
= ____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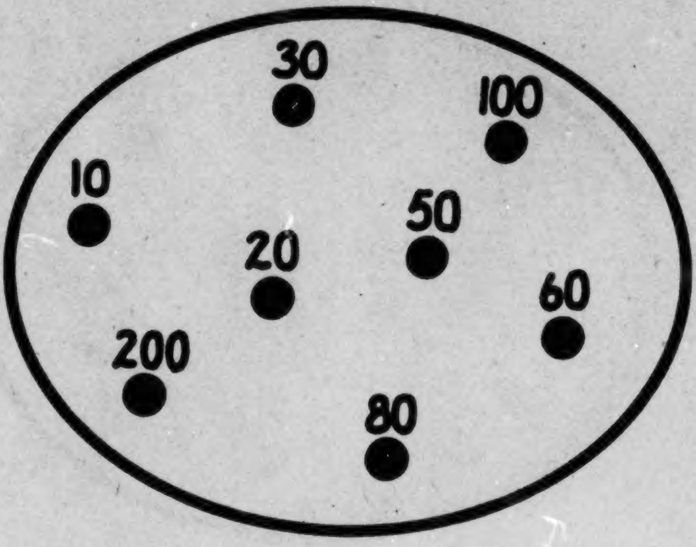
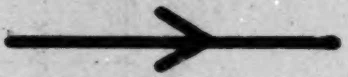
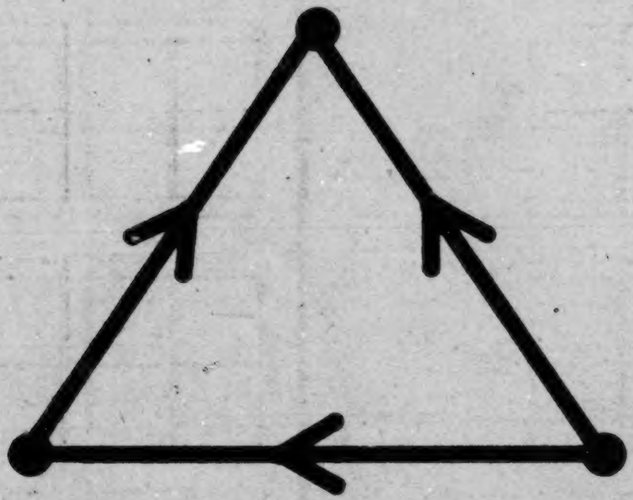
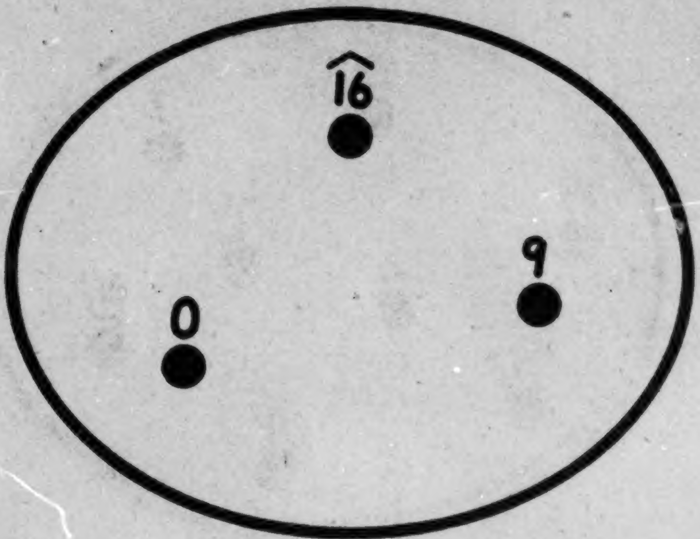
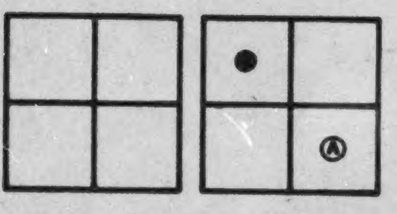


I am more than you






$\widehat{16}$
9
0



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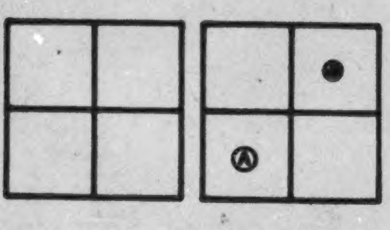

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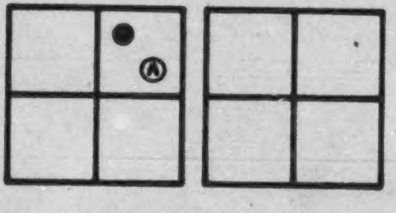

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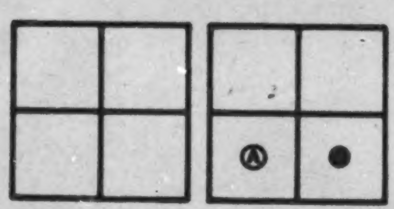

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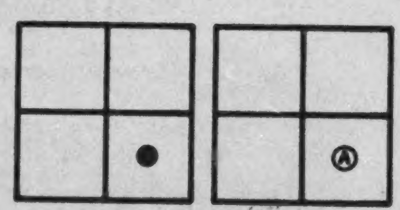

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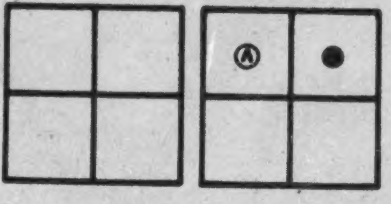

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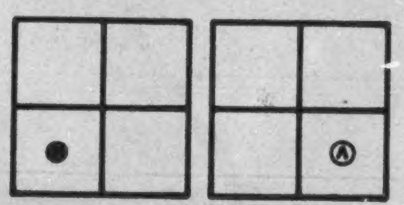

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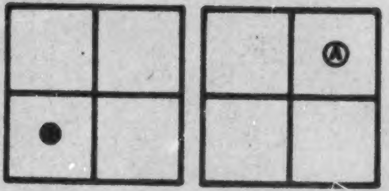

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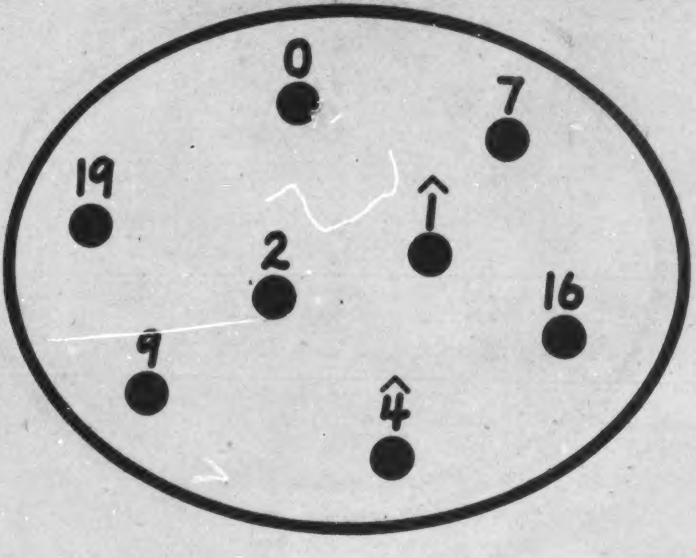
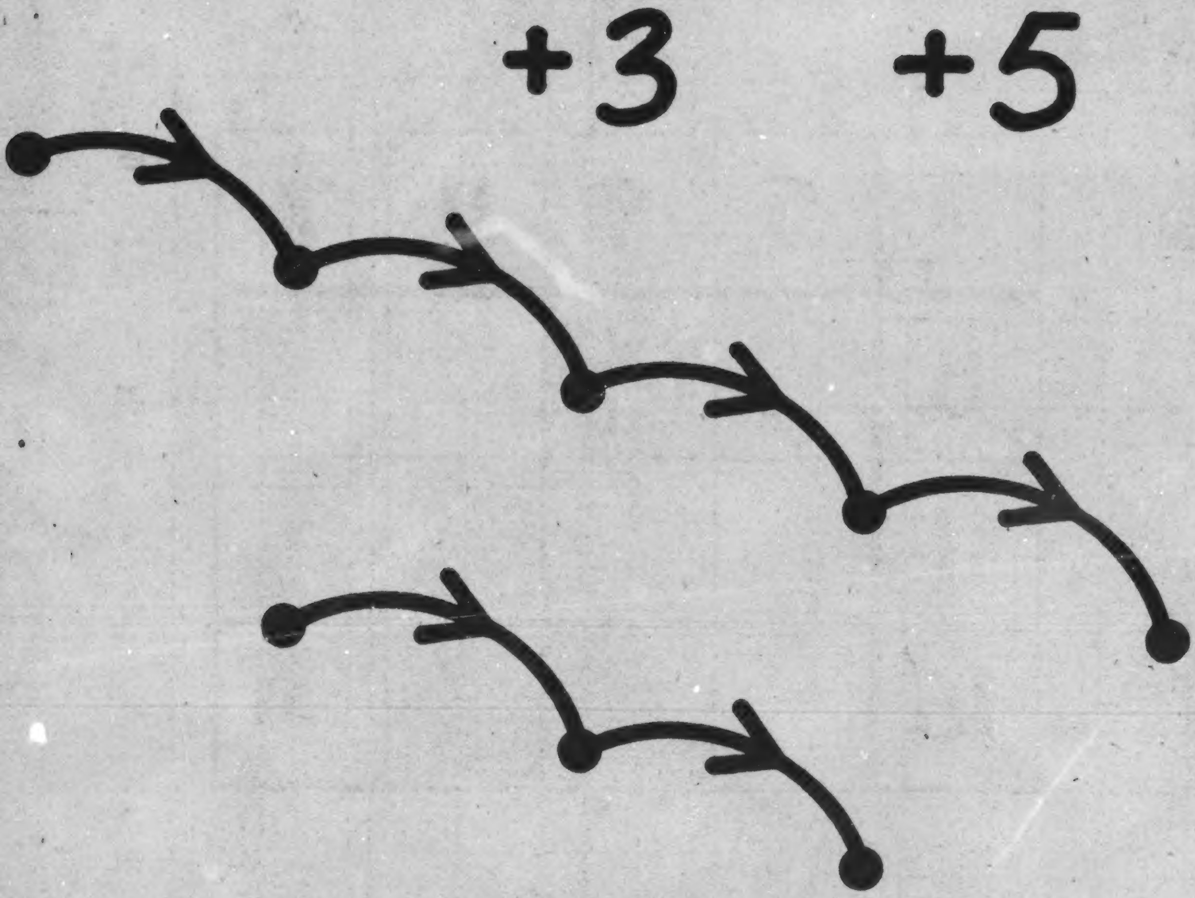
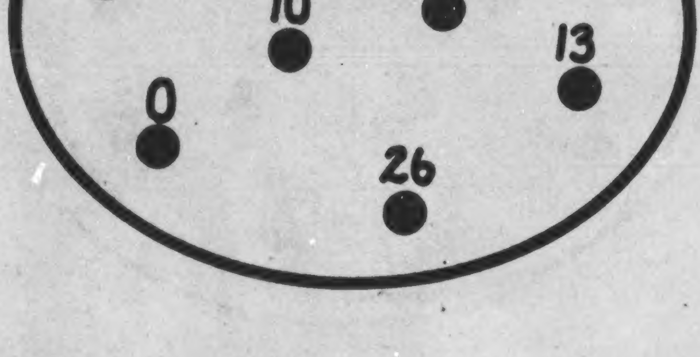
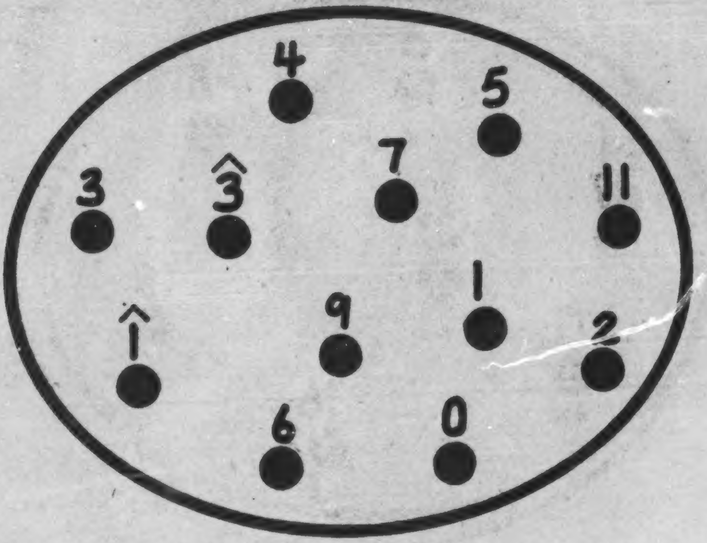

1̂
4̂

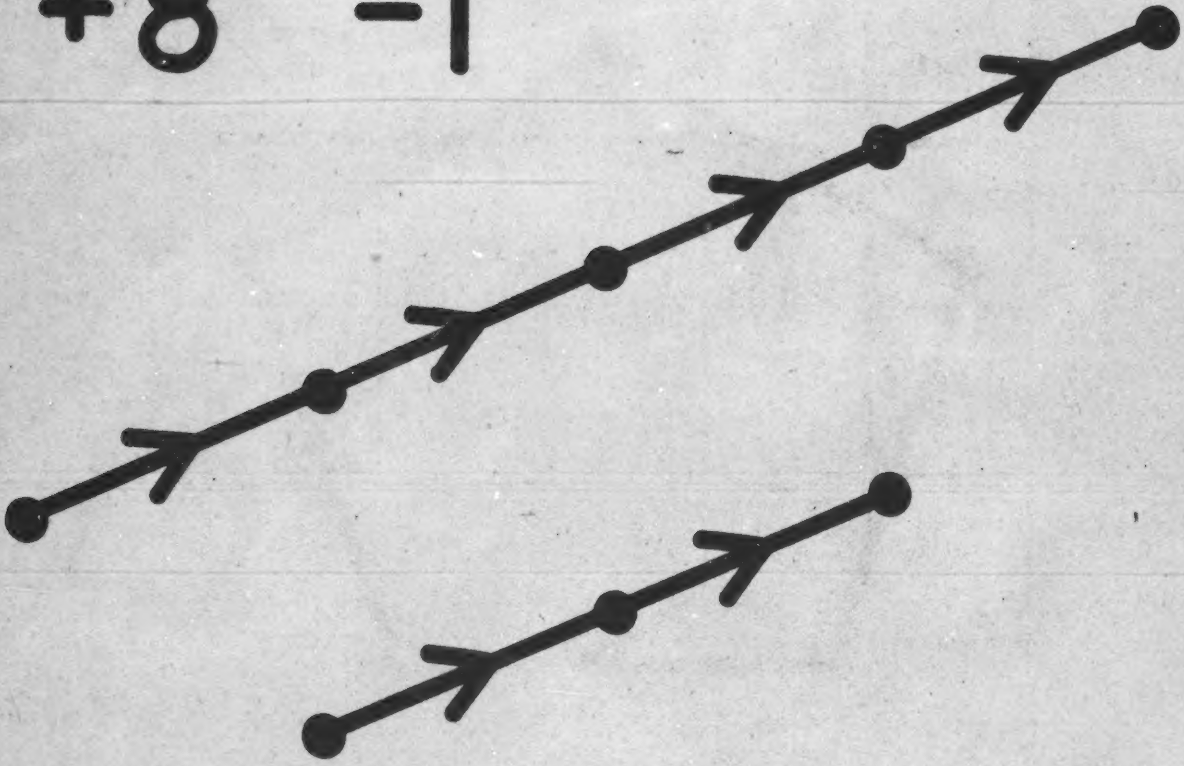

+3
+5

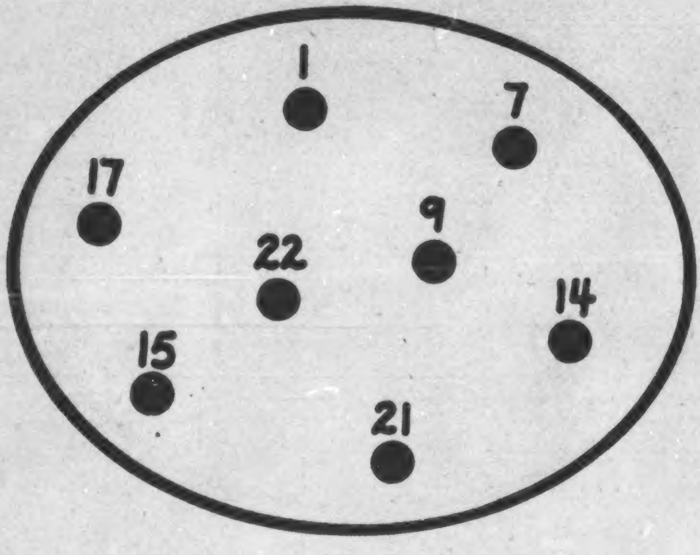

$\hat{5}$

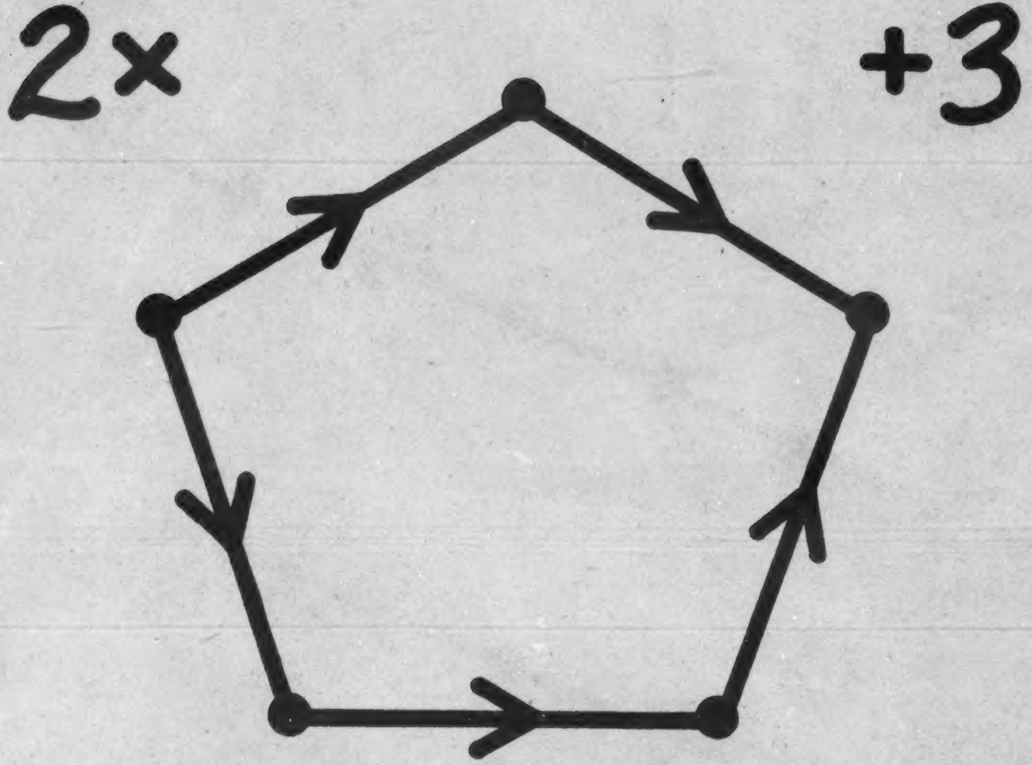
−	5	9	11	7
8				
11				
16				

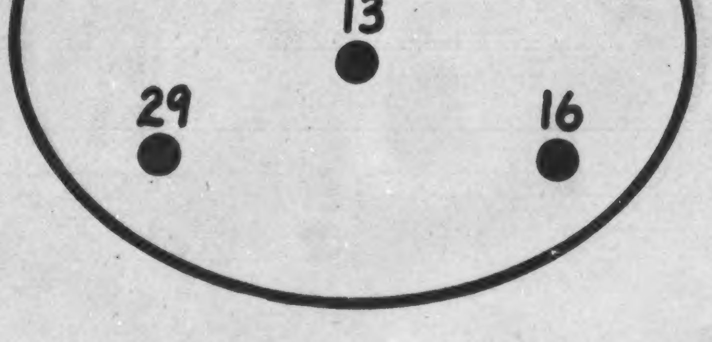

4
5
3
3̂
7
11
1̂
9
1
2
6
0

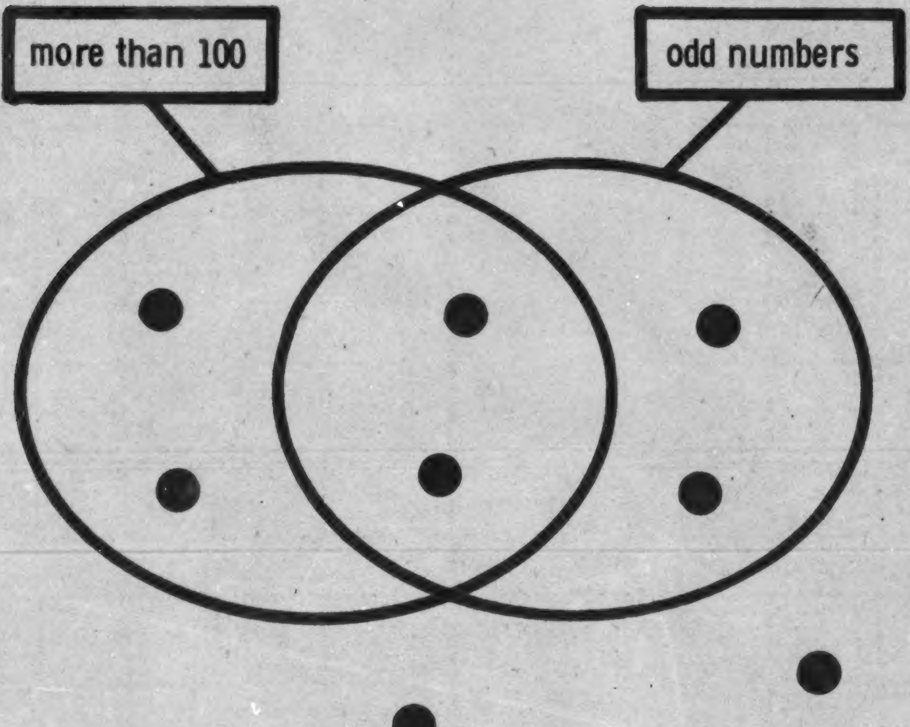
+8 −1

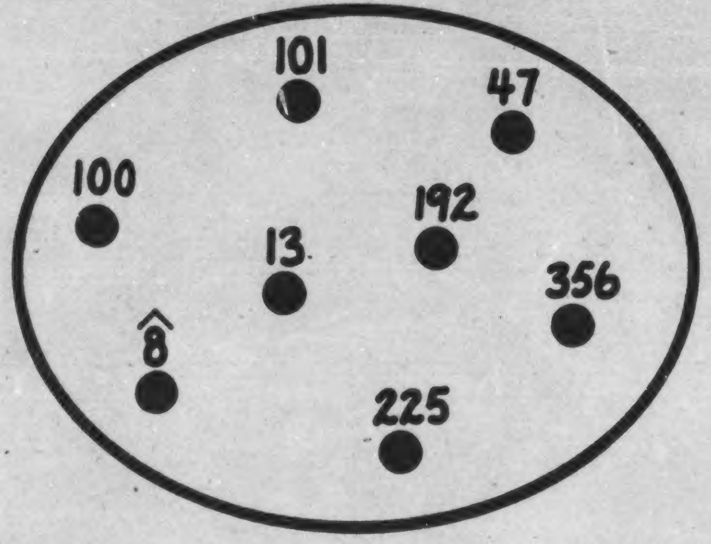


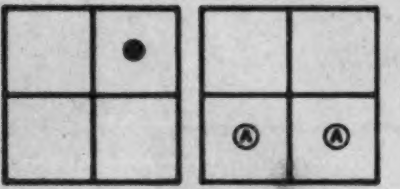

1
7
17
9
22
14
15
21


2×
+3

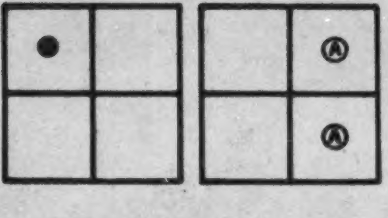



more than 100
odd numbers

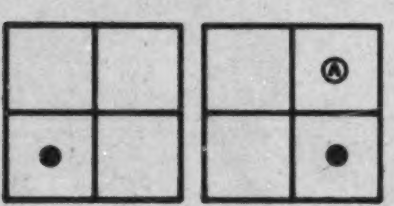




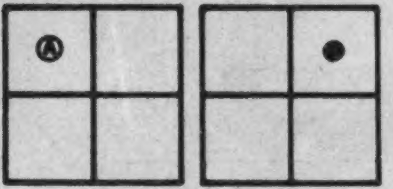
= ______



= ______



= ______



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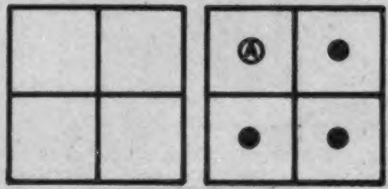
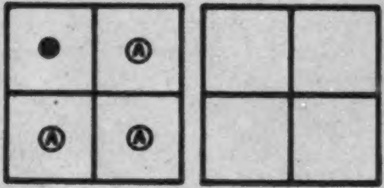
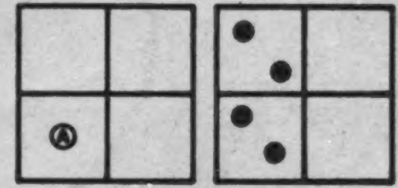


= ______



= ______



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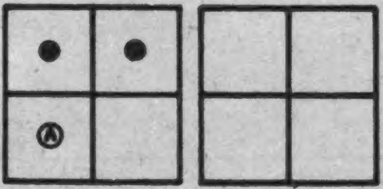
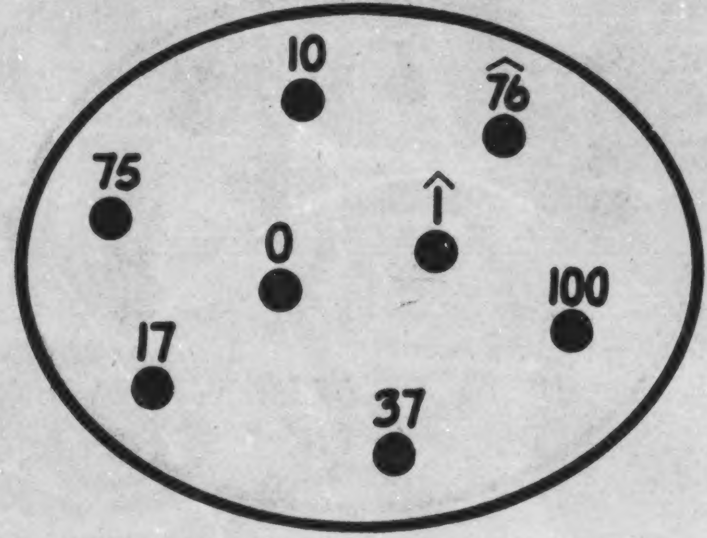
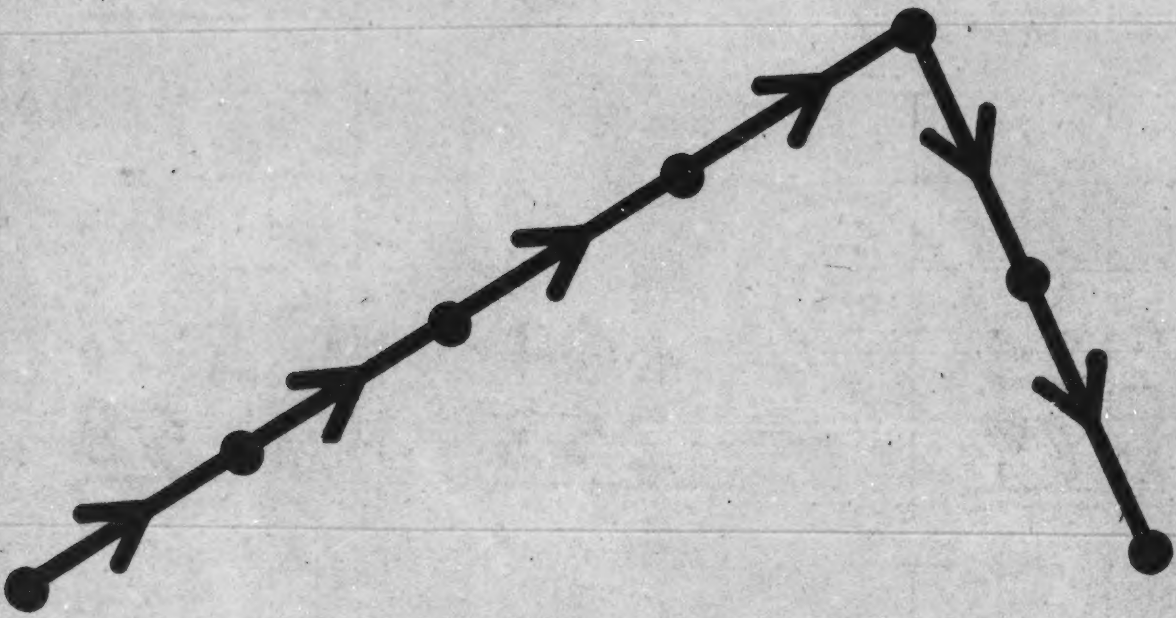
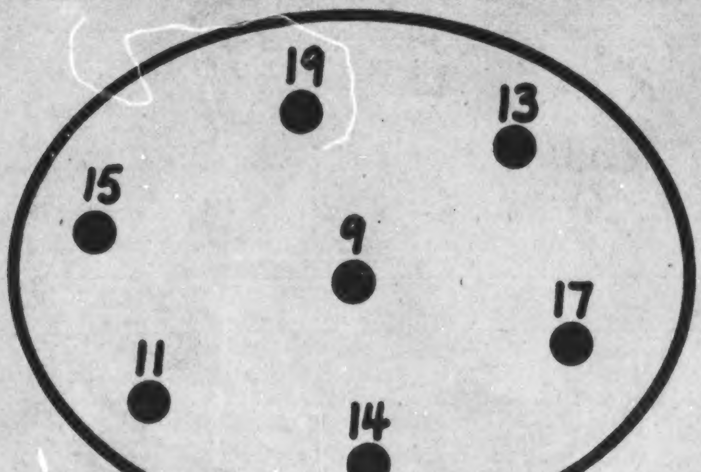


= ______



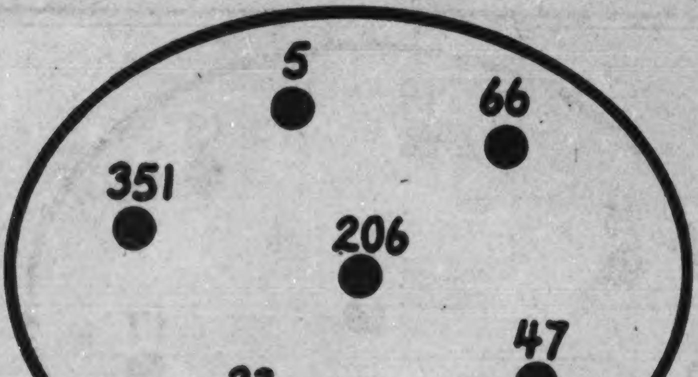
-2 +5

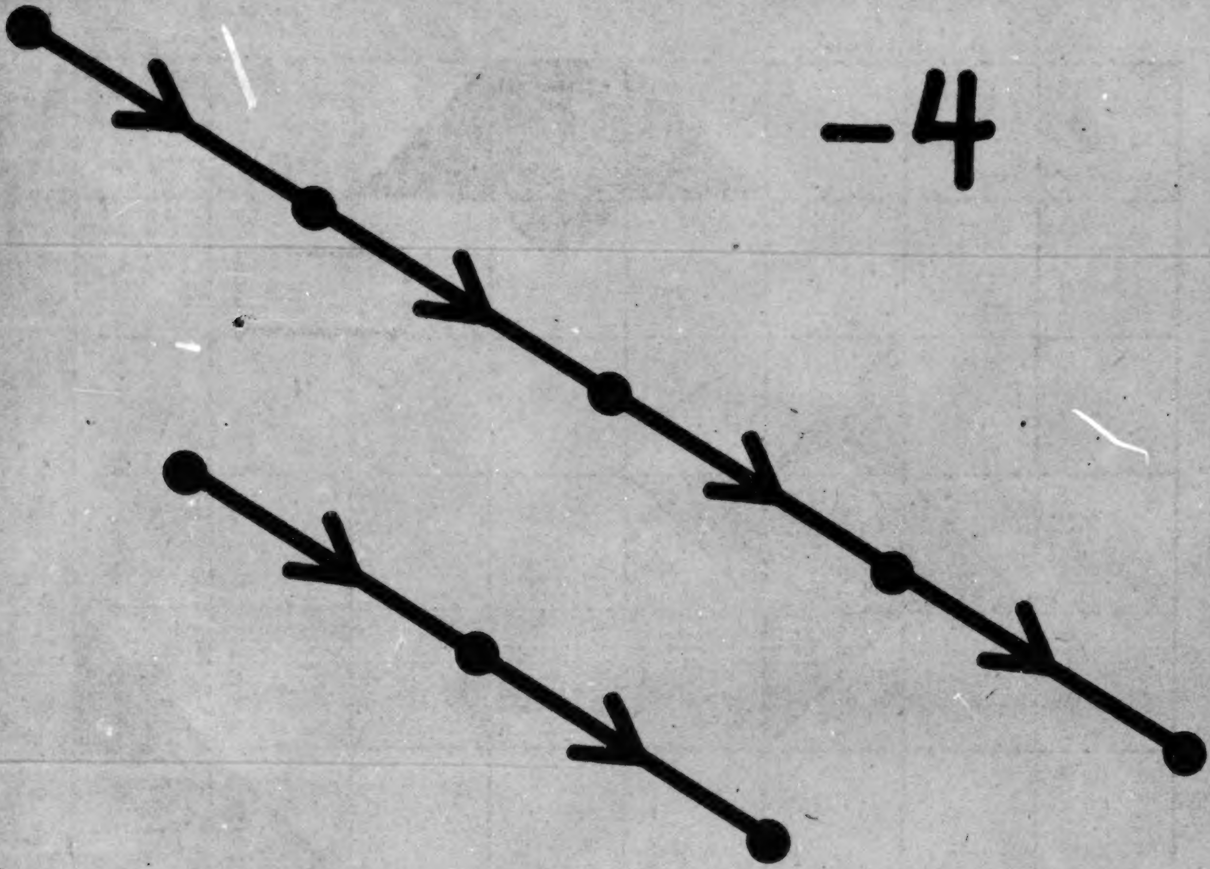



19
13
15
9
17
11
14

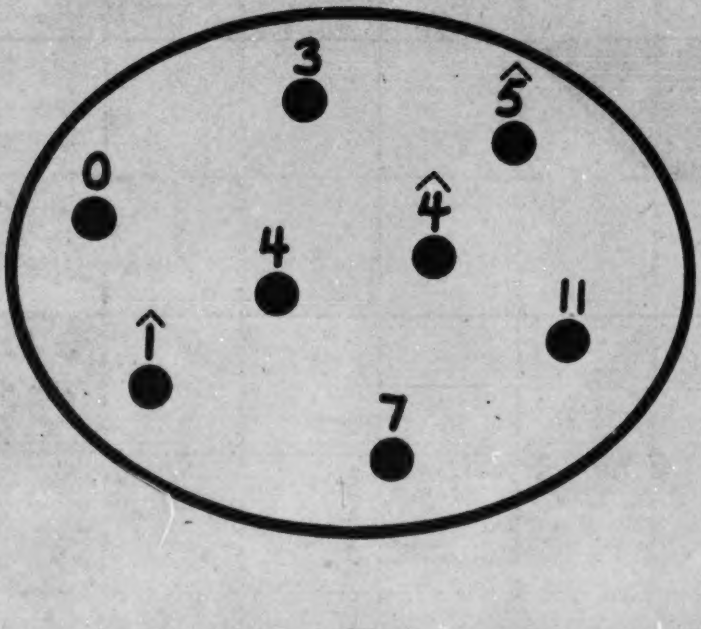
$$\begin{array}{r} 60 \\ -37 \\ \hline \end{array} \qquad \begin{array}{r} 93 \\ -46 \\ \hline \end{array} \qquad \begin{array}{r} 75 \\ -70 \\ \hline \end{array}$$

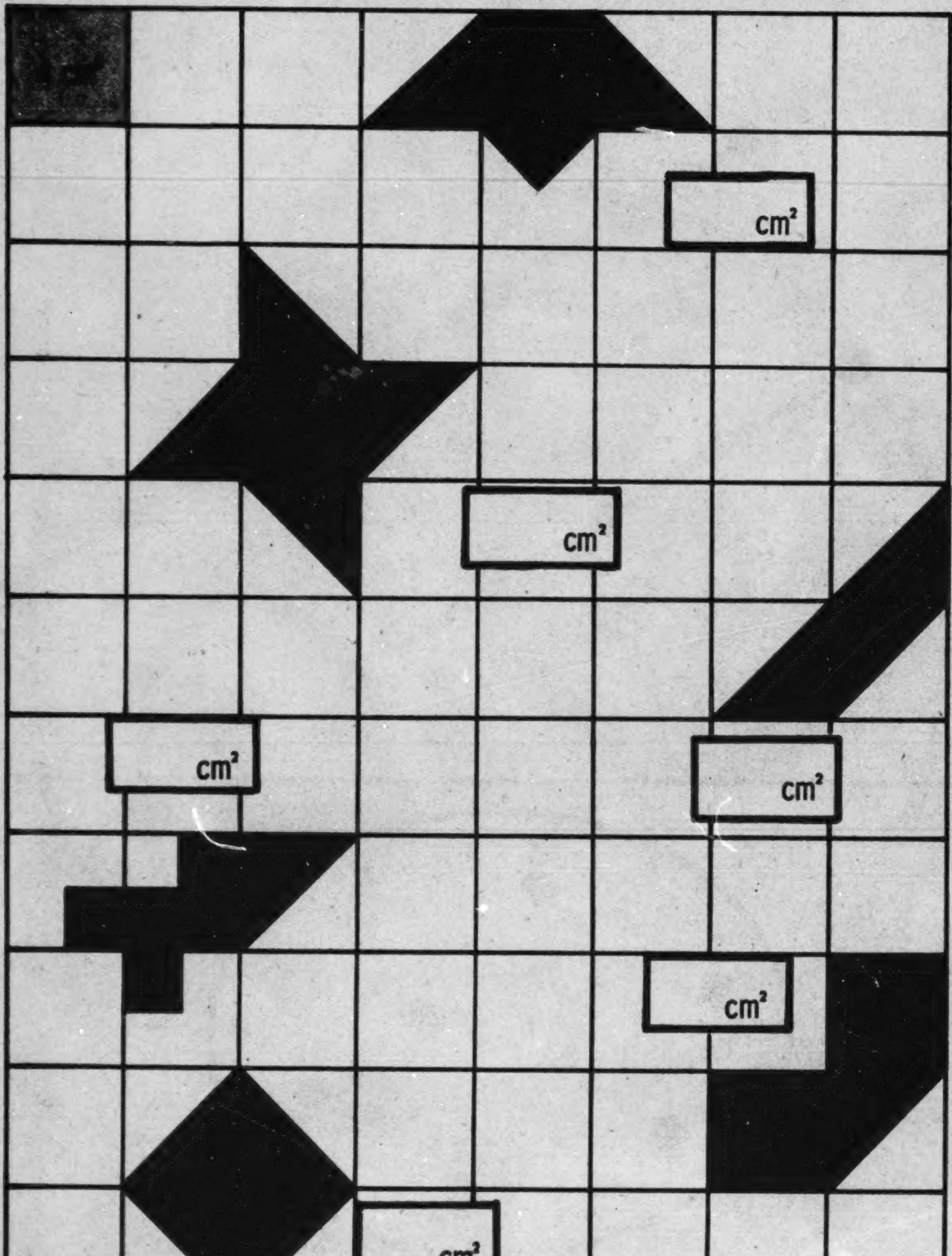
$$\begin{array}{r} 285 \\ -79 \\ \hline \end{array} \qquad \begin{array}{r} 604 \\ -253 \\ \hline \end{array} \qquad \begin{array}{r} 124 \\ -58 \\ \hline \end{array}$$

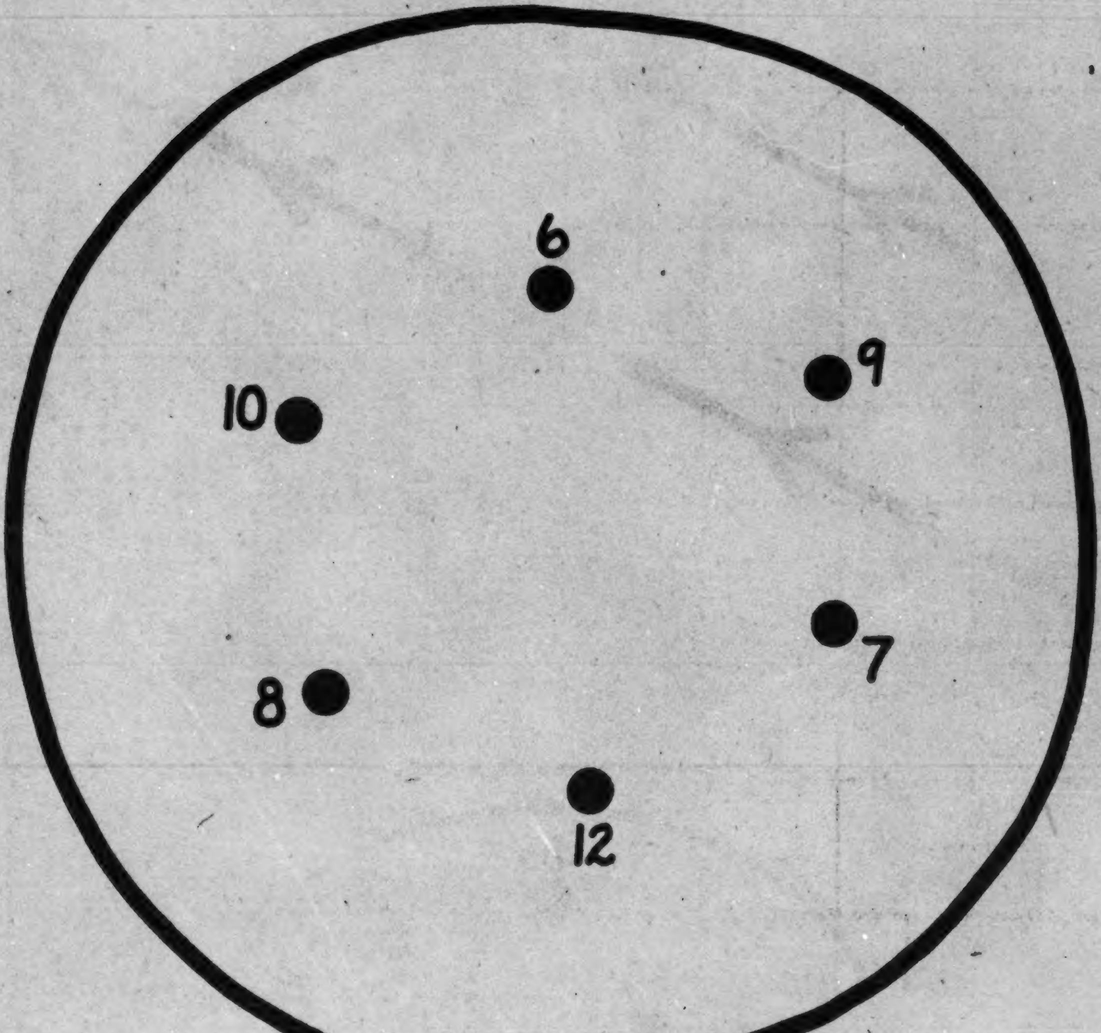


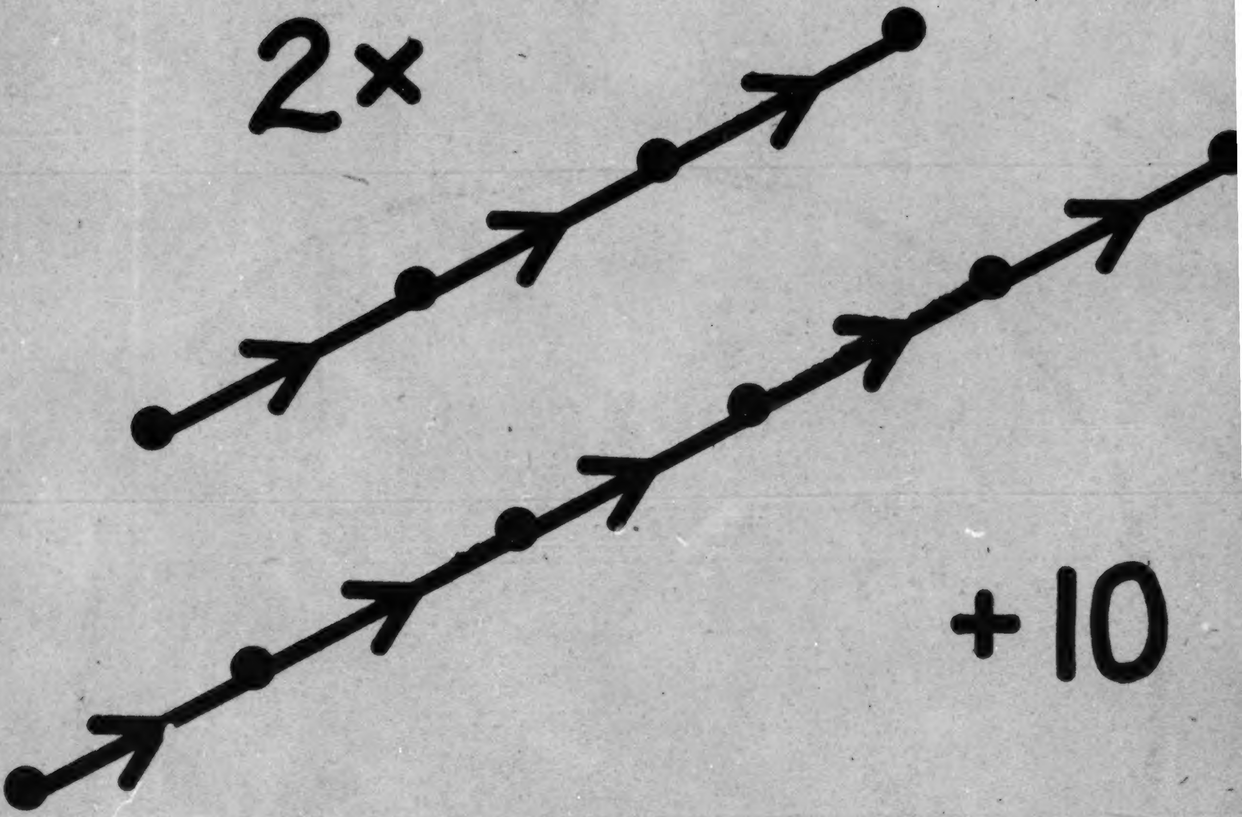


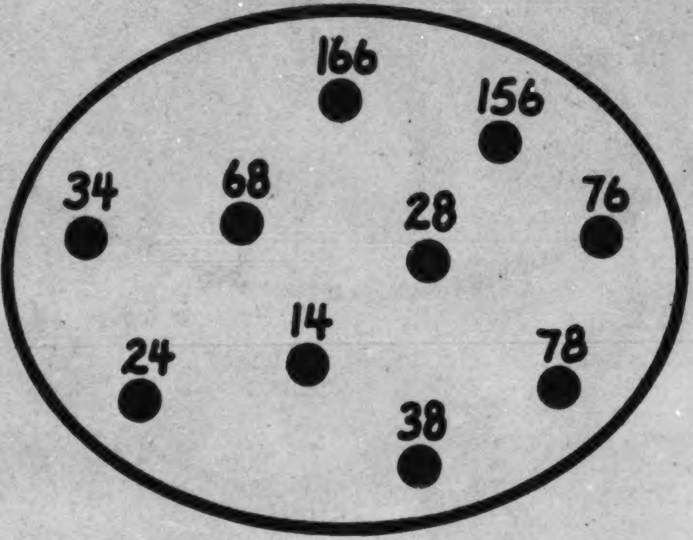
-4


3
$\hat{5}$
0
$\hat{4}$
4
11
$\hat{1}$
7

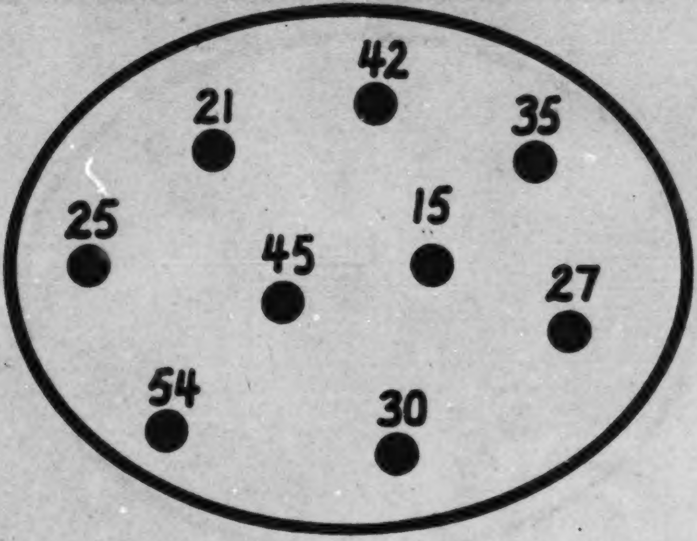

cm²
cm²
cm²
cm²
cm²
cm²




2×
+10

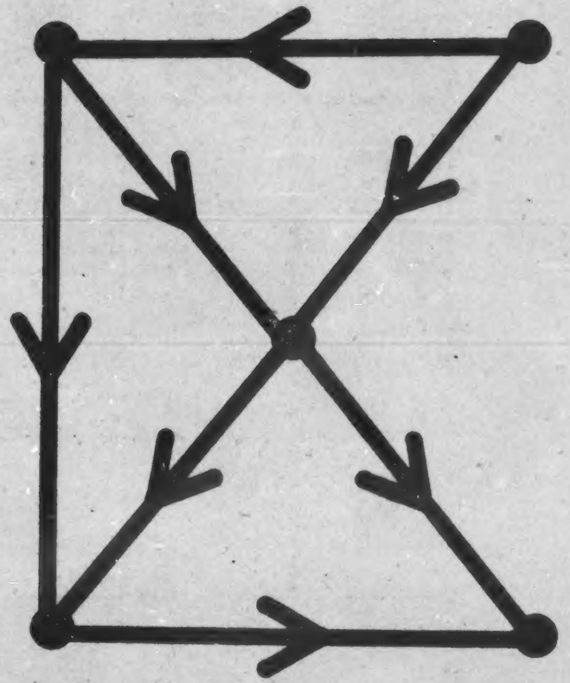


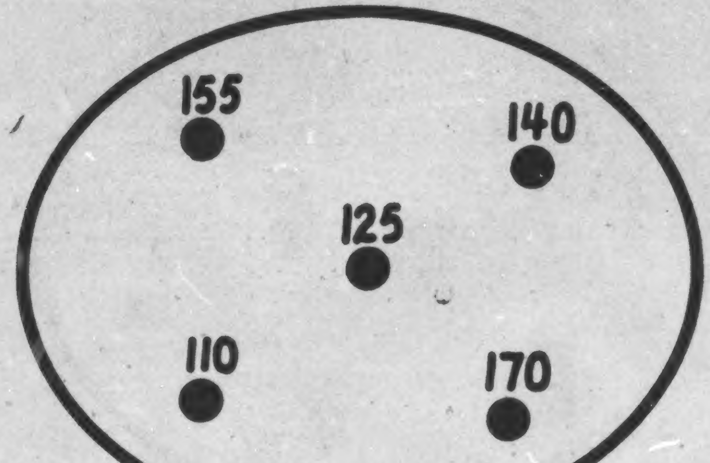
X	3	5	6
5			
7			
9			

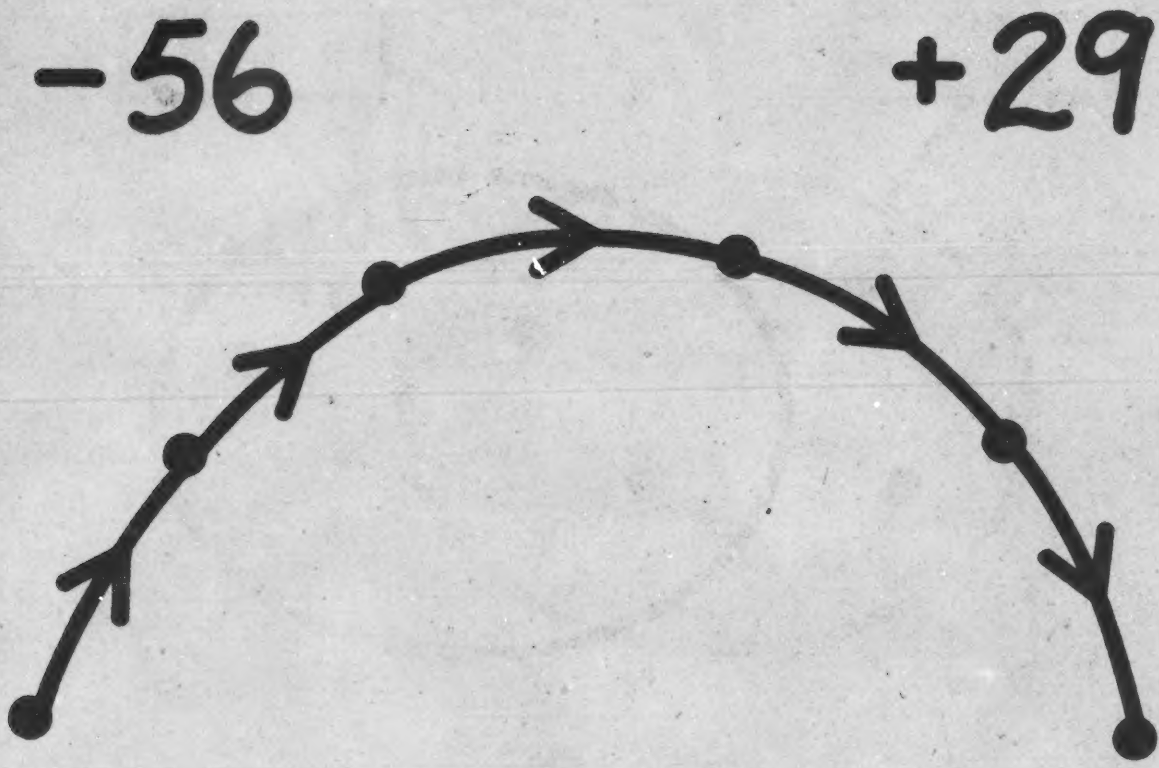

42
21
35
15
25
45
27
54
30

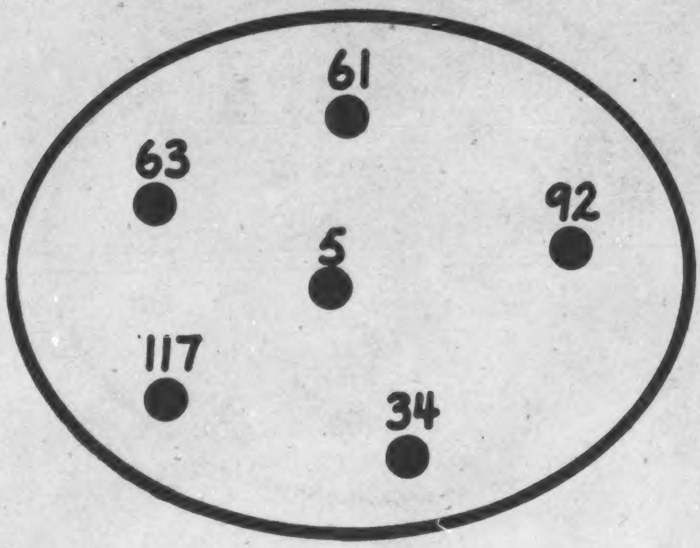
-15

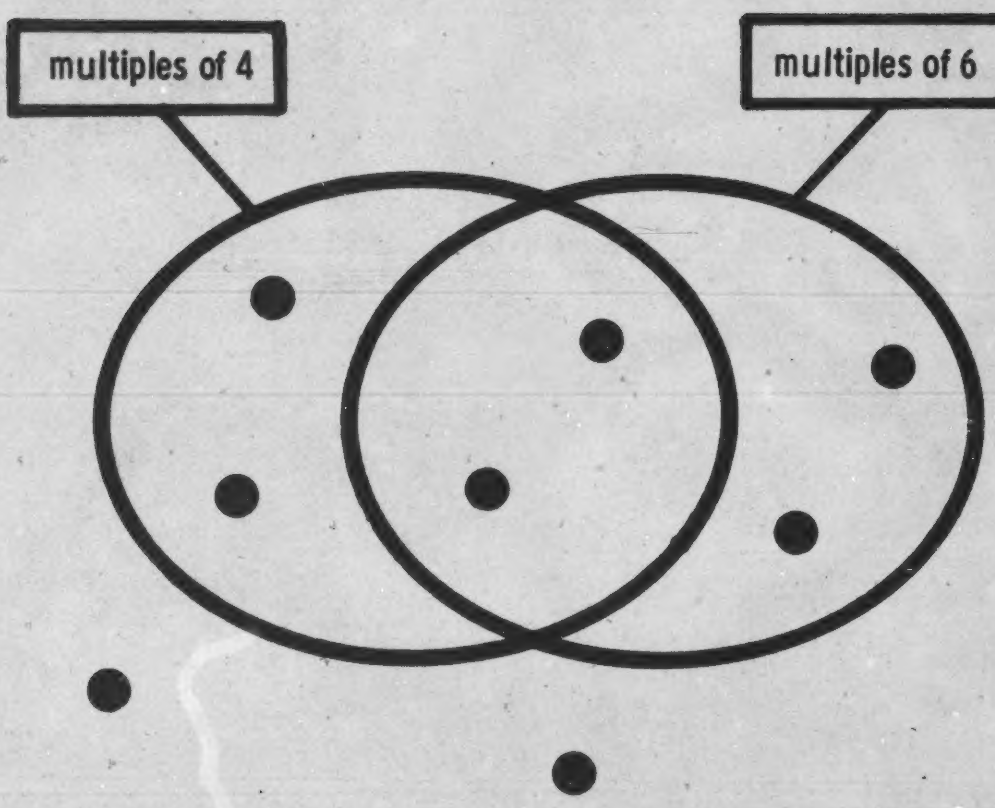
-30

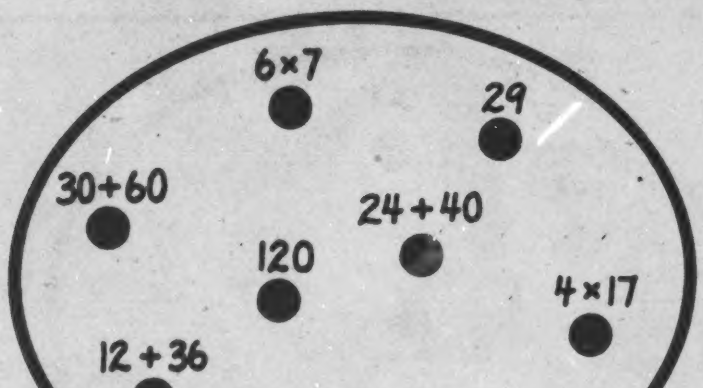



155
140
125
110
170

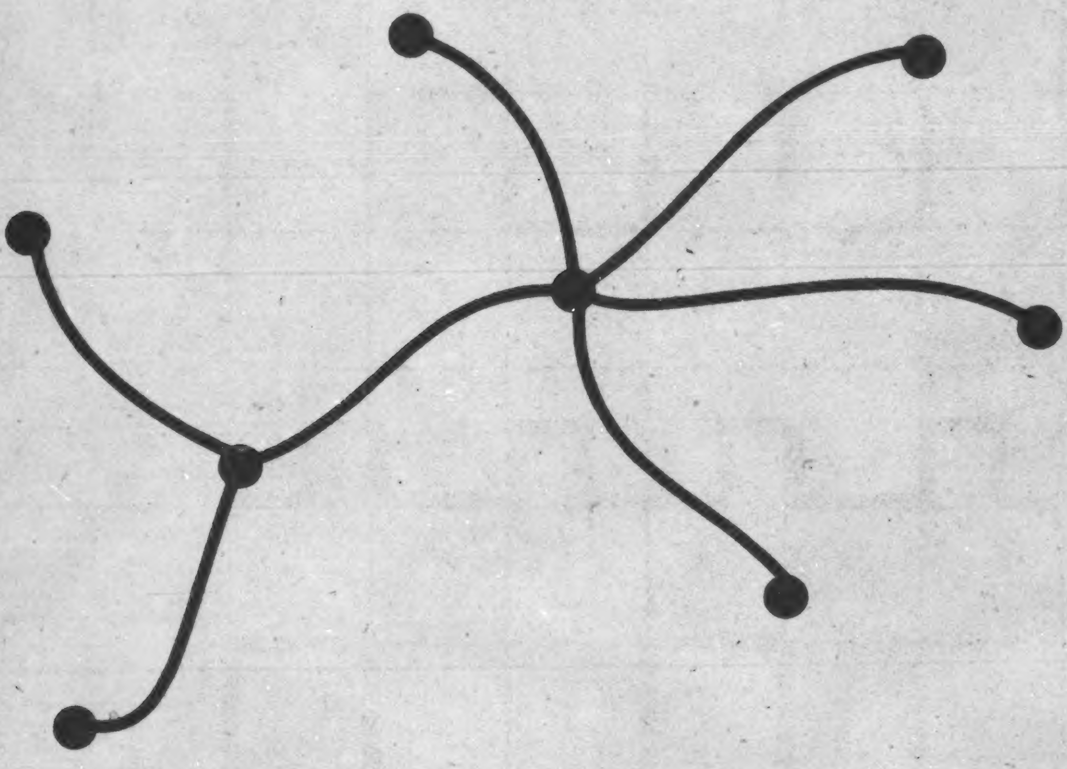

-56
+29

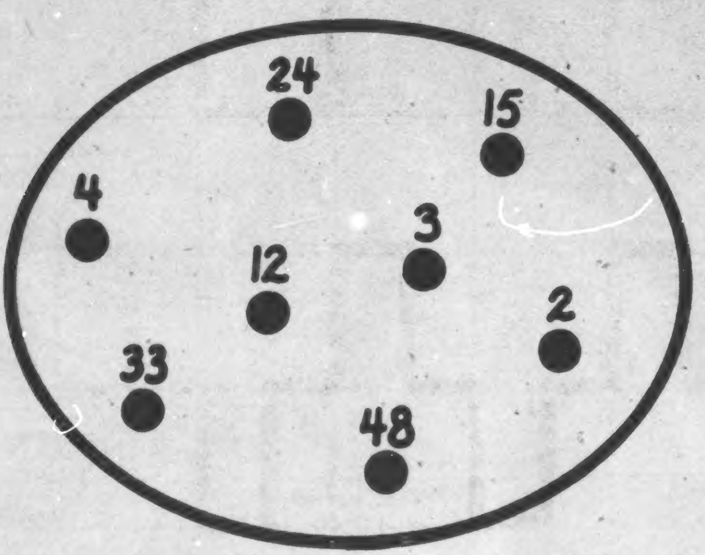


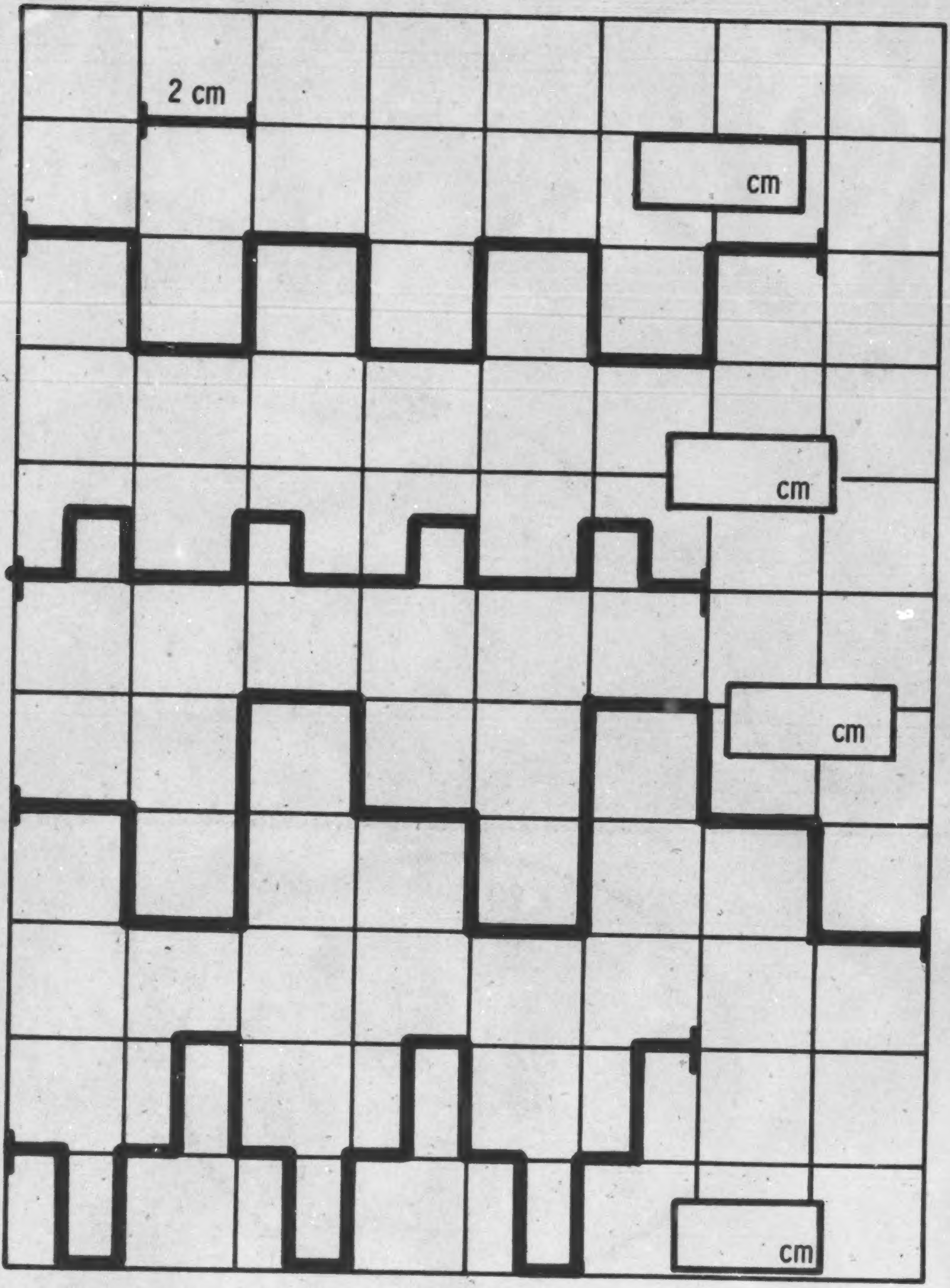

multiples of 4
multiples of 6

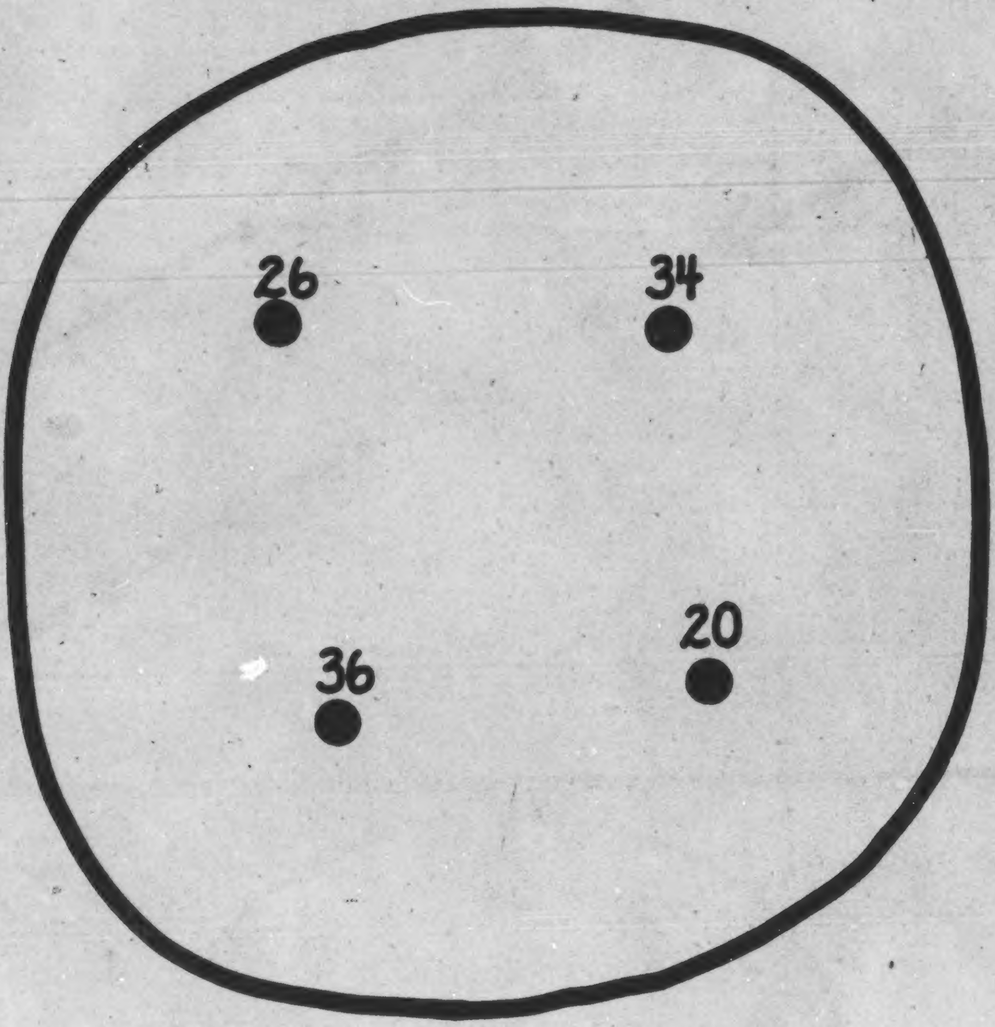

6×7
29
30+60
24+40
120
4×17
12+36
7×13

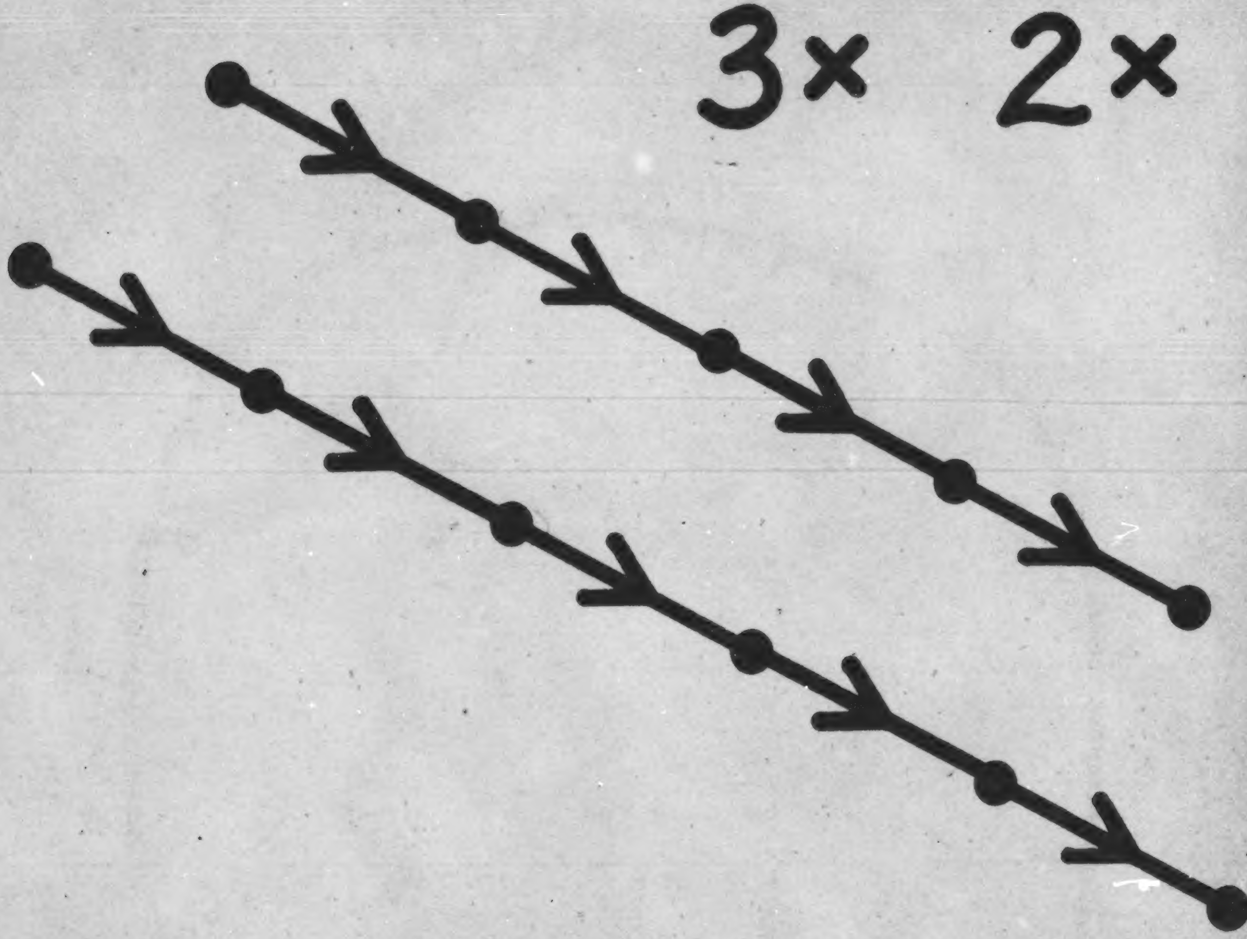
Two numbers may talk to each other
if and only if
one number is a multiple of the other.

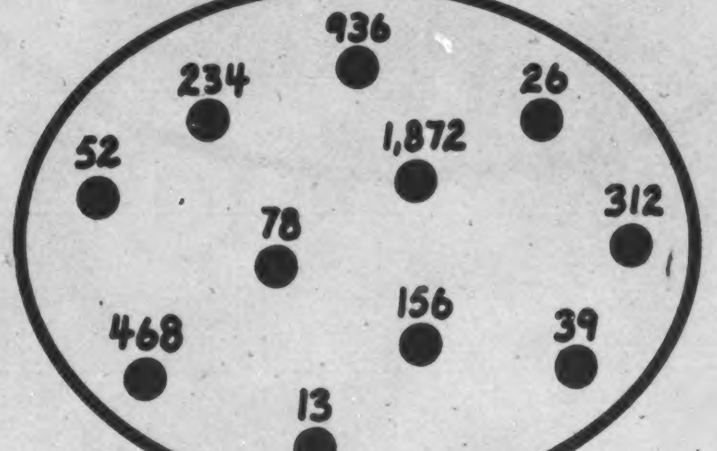



24
15
4
3
12
2
33
48

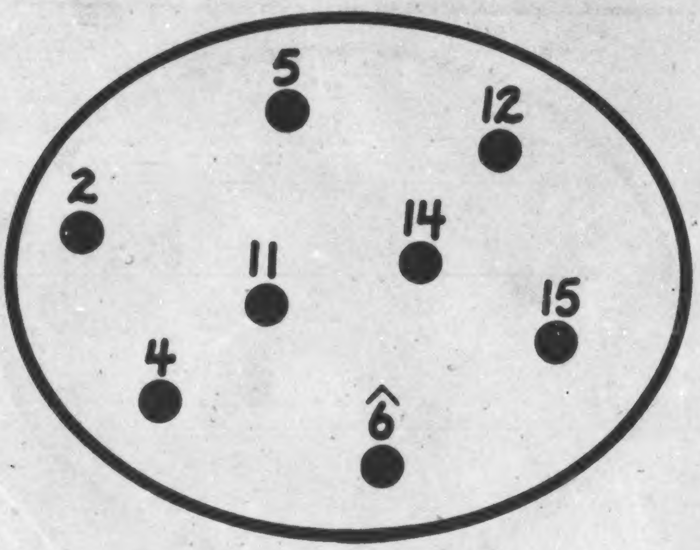

2 cm
cm
cm
cm
cm



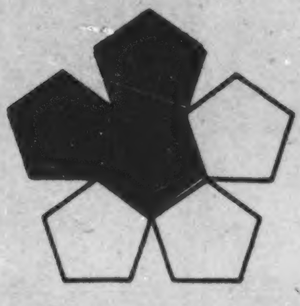

3×
2×


936
234
26
1,872
52
312
78
156
468
39
13

−	3	6		
8			$\hat{3}$	
		9		1


5
12
2
14
11
15
4
$\hat{6}$

What fractional part of each shape is shaded?



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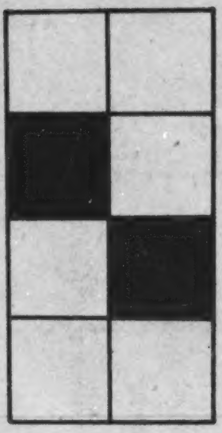

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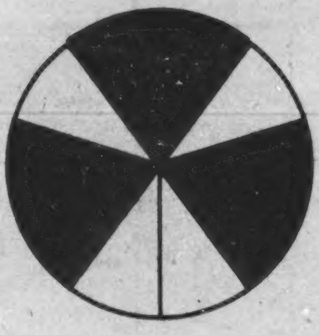

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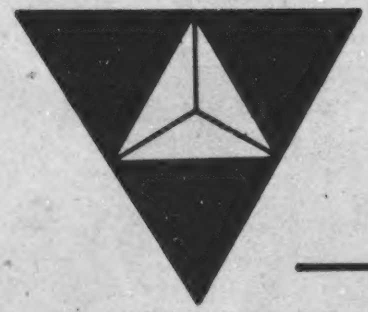

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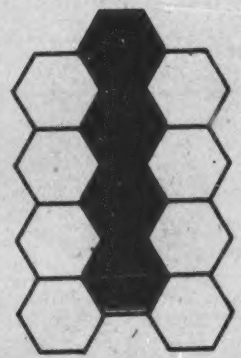

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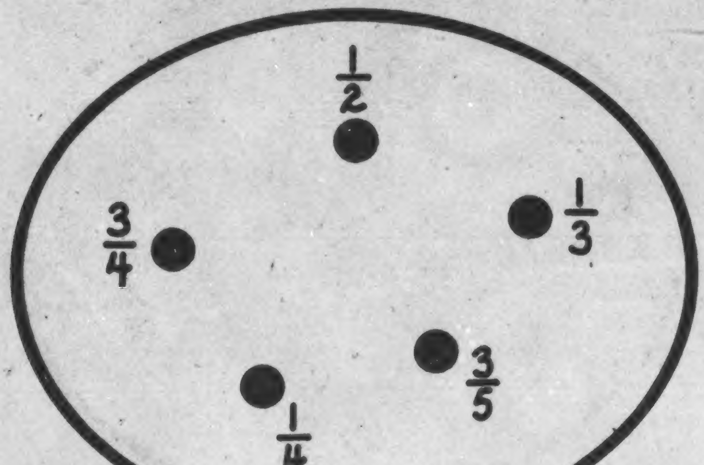
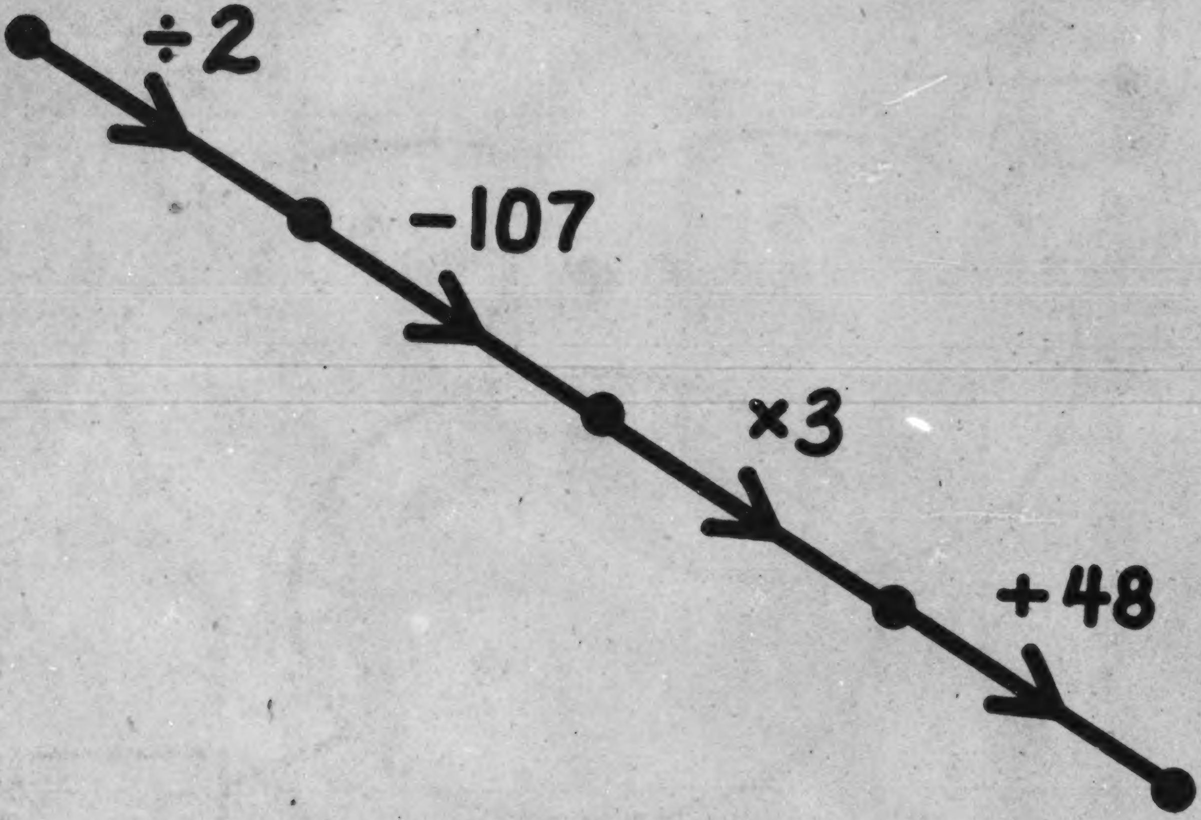
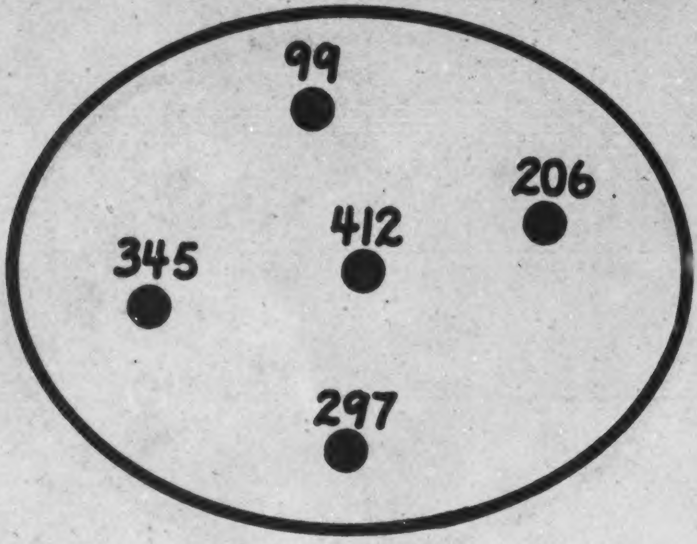
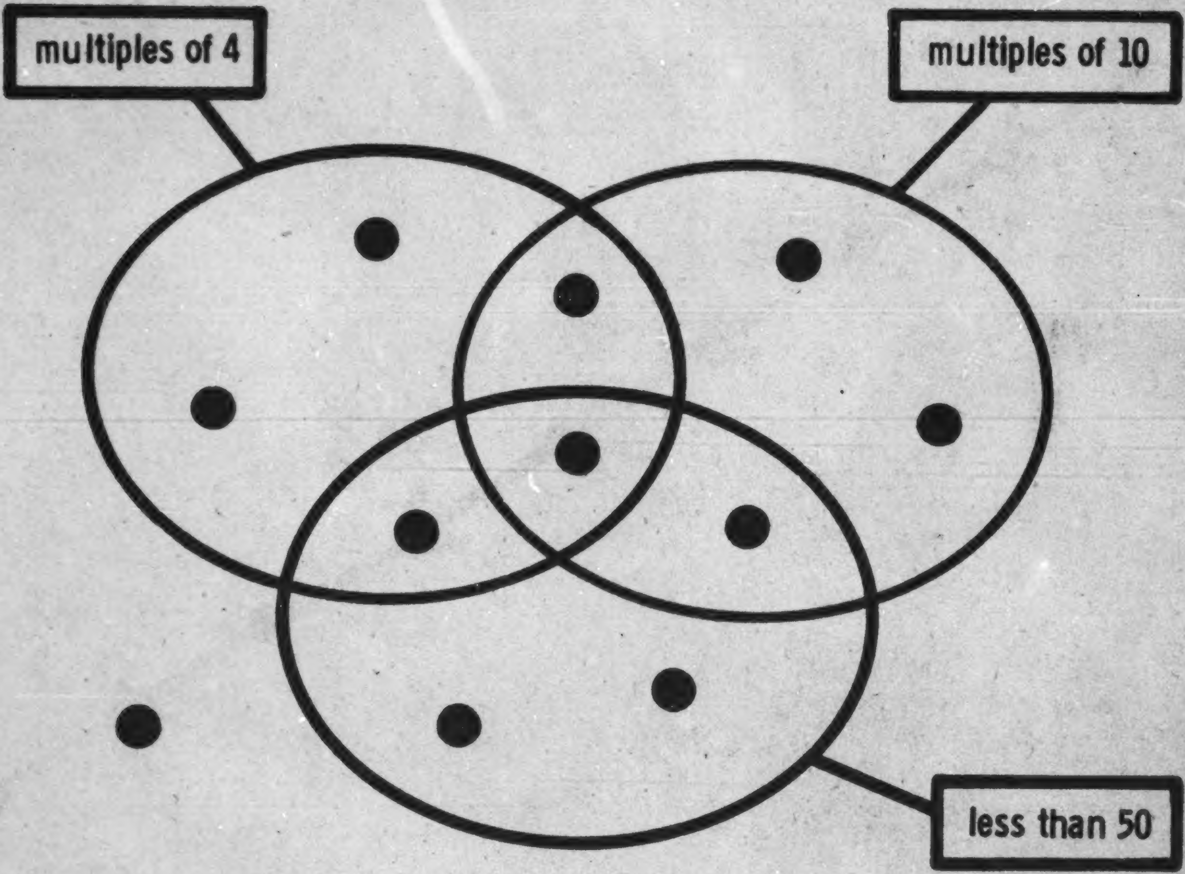
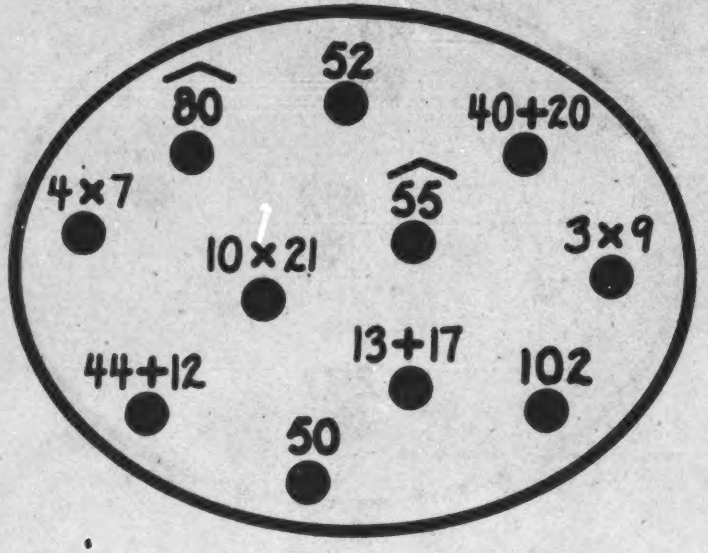

$\frac{1}{2}$
$\frac{3}{4}$
$\frac{1}{3}$
$\frac{3}{5}$
$\frac{1}{4}$


÷2
−107
×3
+48




multiples of 4
multiples of 10
less than 50


$\widehat{80}$
52
40+20
4×7
$\widehat{55}$
3×9
10×21
13+17
44+12
102
50

SE

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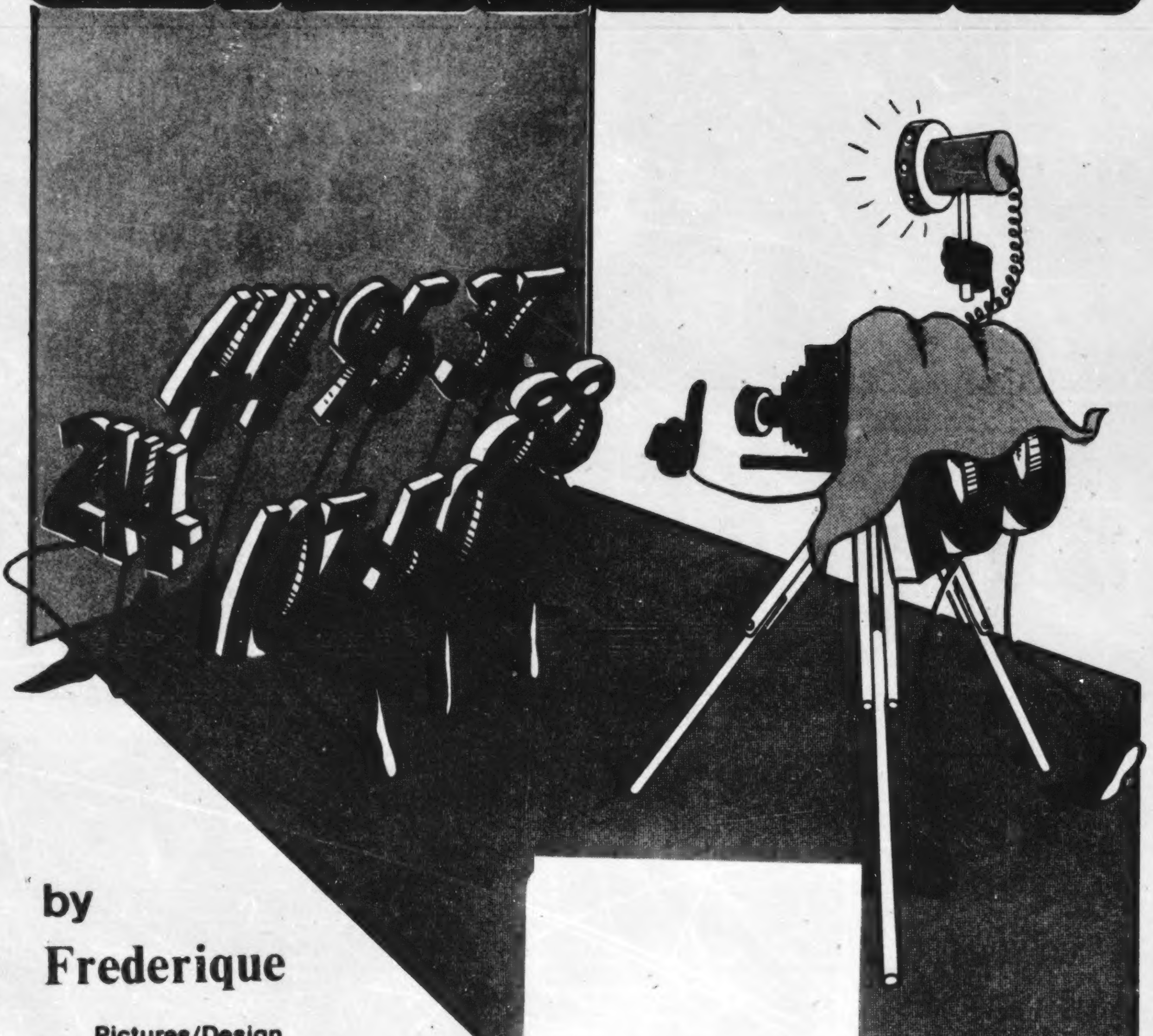
MATH STORY-WORKBOOKS
3-44801

To PICTURE



by
Frederique

Pictures/Design
Steven Sims

162

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MATH STORY-WORKBOOKS

Current List

Ages 8-11

ROLLERSKATING 37
TO PICTURE
A SHORT STORY ABOUT 2 FRIENDS
A SHORT STORY ABOUT 3 FRIENDS
THE ISLAND OF TAM - TAM
THE TALKATIVE NUMBERS

Ages 9 - 14

SUMMER CAMP
HALLOWEEN PUZZLES
1,000's DREAM
A STRANGE COUNTRY
NOT TOO CLOSE
WHO ARE WE ?
CLINTON STREET
A BOOK ABOUT ME
SEVEN SECRET NUMBERS
SHUNDA'S NEWSSTAND

A series of story-workbooks providing fanciful excursions in the colorful world of mathematics for all young people, their teachers and their parents, actively involving them in the acquisition of new mathematical insights.

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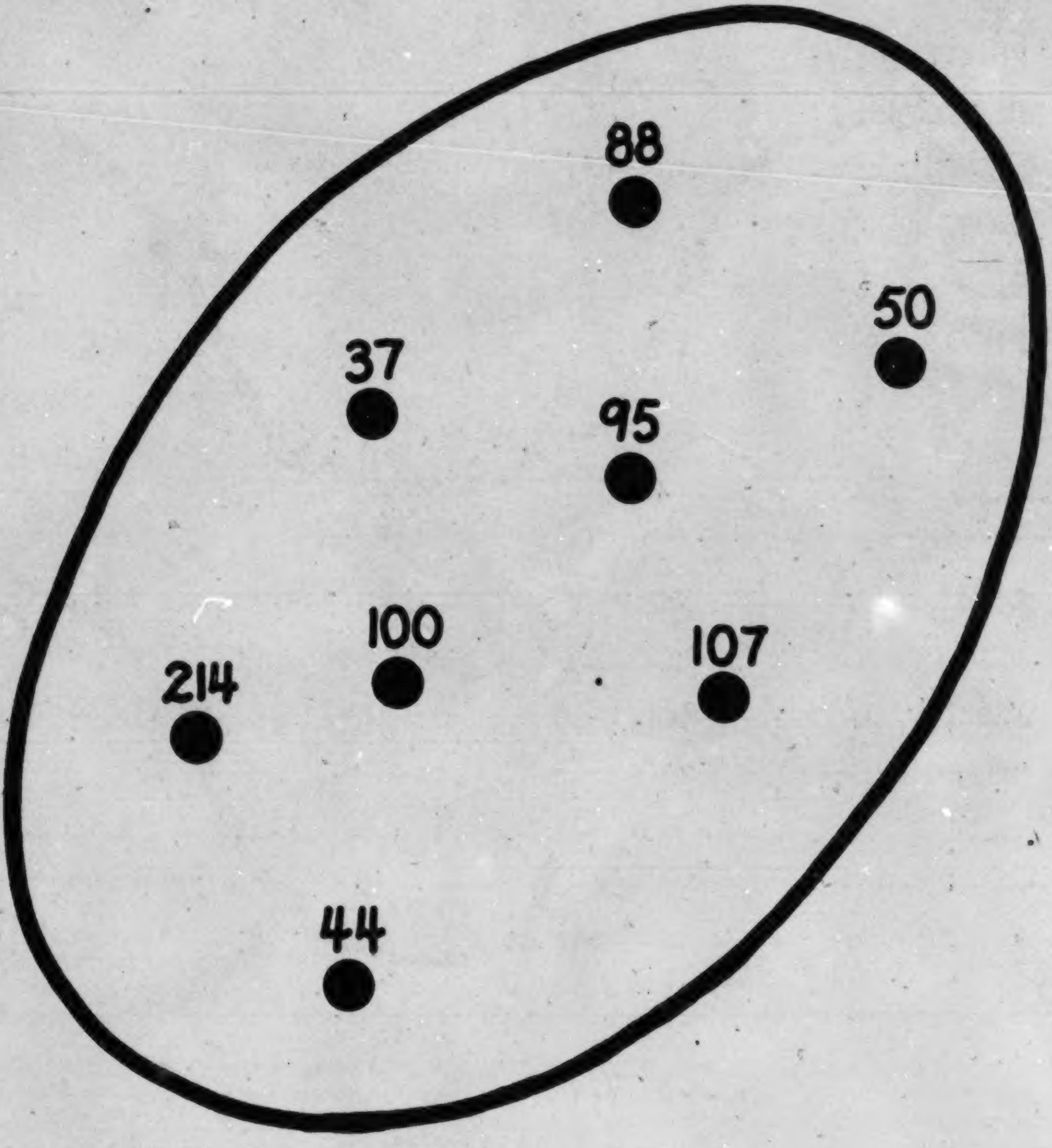
The number 100 is directing some friends in an interesting game. They all have to find their places in an arrow picture. As they very quickly discover, this is not as easy as it sounds. They cannot just jump into the picture at random; they have to think first. Once they realize this, it is not long before they have all found their proper places. Then 50 discovers that a second game is just the first one in a new guise.

After all this activity the numbers take a rest on their Minicomputer boards. But soon 50 becomes bored and plays a prank on the other numbers. This motivates some intriguing questions about the different ways in which the numbers can be shown on the Minicomputer.

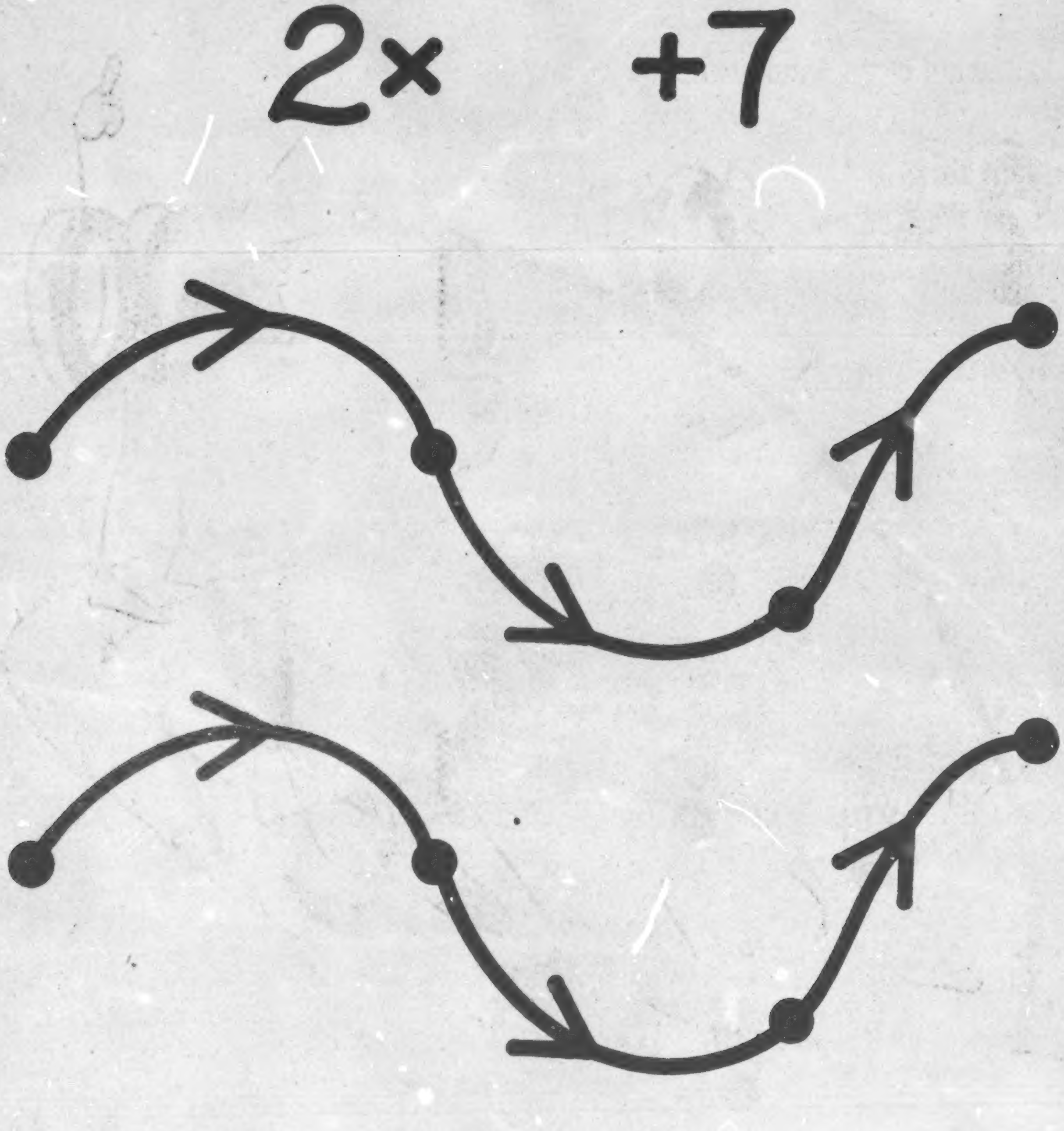
The story compels the reader to consider several challenging numerical problems presented in two non-verbal languages: the language of arrows and the language of the Minicomputer. While grappling with these problems, students develop mathematical reasoning skills within the context of an enjoyable story.

"I can't work with all this noise," I grumbled. "Those noisy children are arguing again on the new playground."

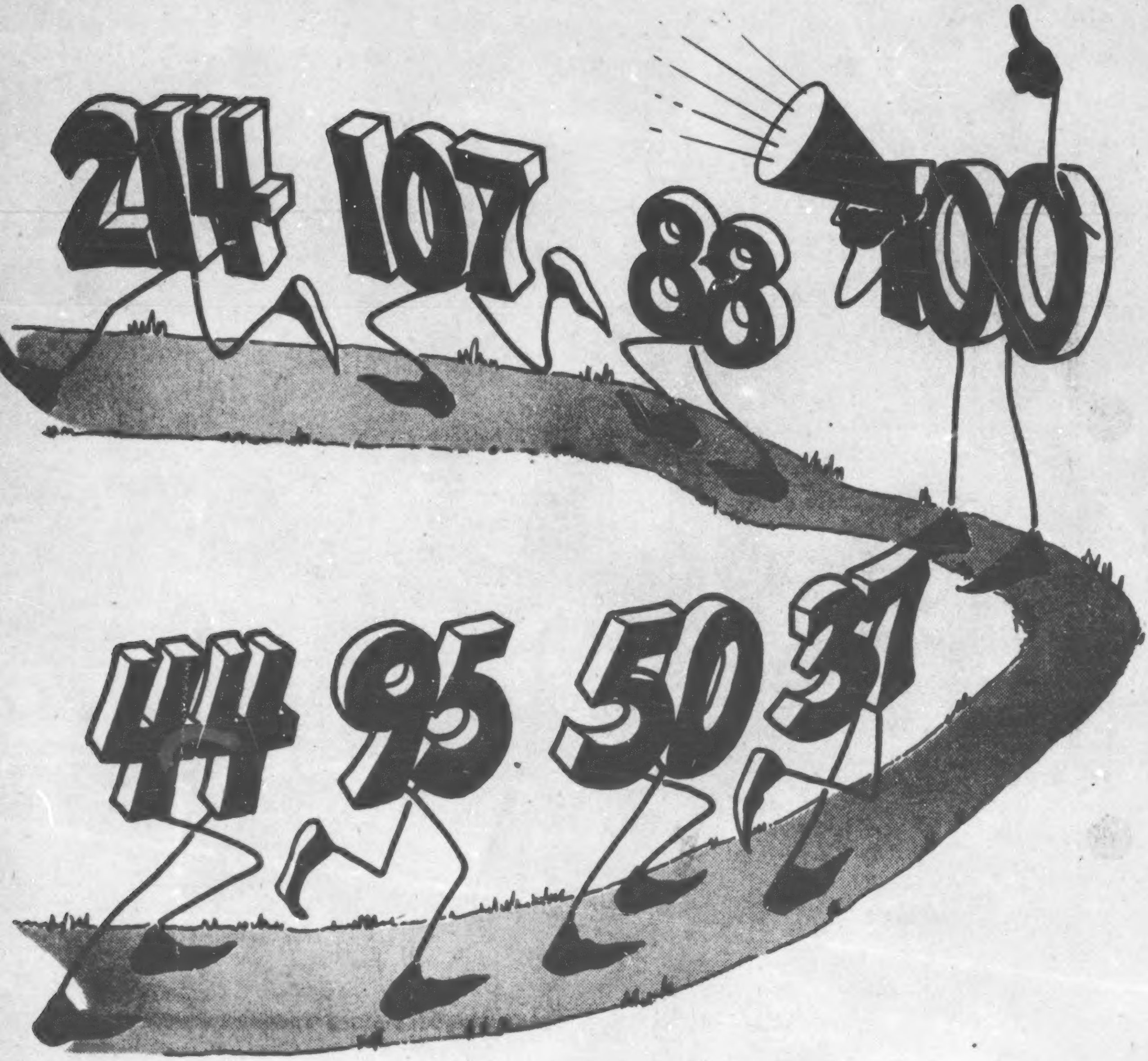
I looked out of the window and to my amazement there were no children in sight . . . just numbers who were running around and yelling at the tops of their lungs.



There was a strange picture drawn on the ground.



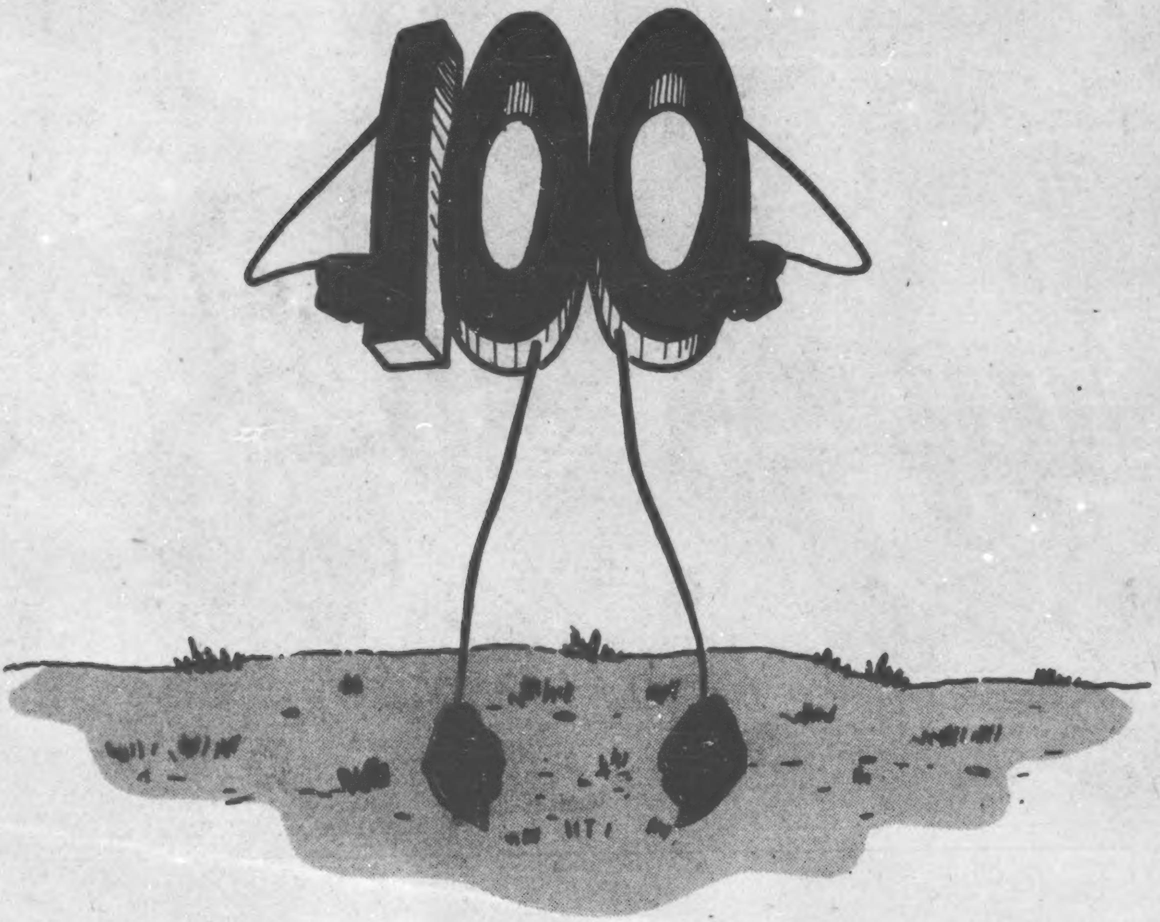
"Go and find your dot," ordered 100 who seemed to be in charge.
They rushed to take their places in the arrow picture.


214
107
88
100
44
95
50
3

DO YOU SEE A DOT FOR EACH NUMBER?
WRITE THEIR NAMES IN THE ARROW PICTURE ON PAGE 4.

SEE WHAT THE NUMBERS DID. DO YOU THINK THAT THEY FOUND THEIR PLACES?

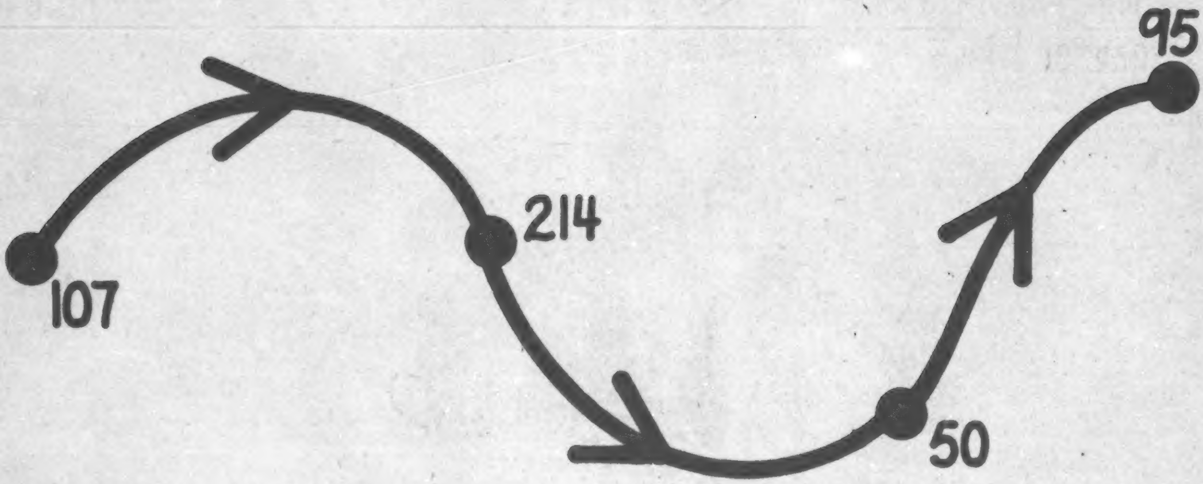
THERE ARE A LOT OF MISTAKES IN THIS ARROW PICTURE. CAN YOU FIND SOME OF THEM?

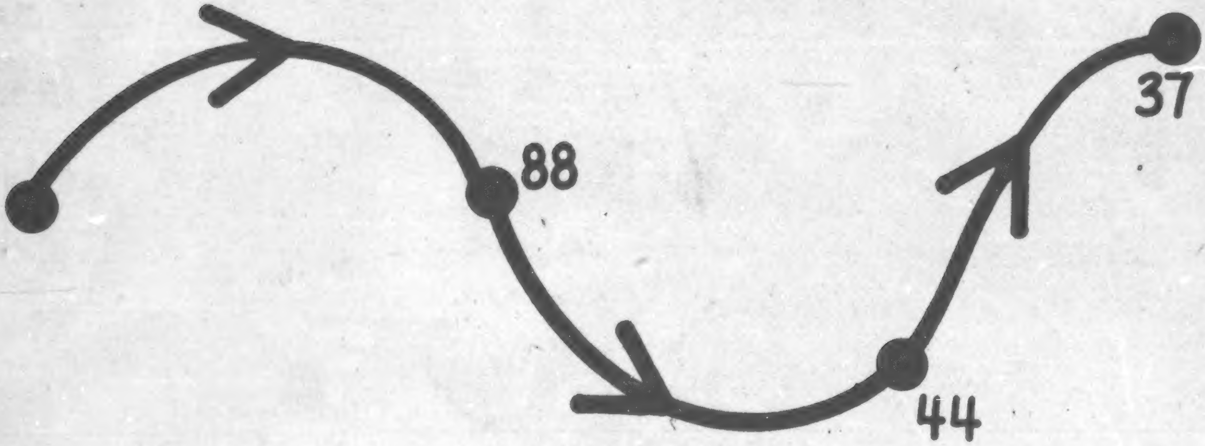


100 DECIDED NOT TO CHOOSE A DOT.

DO YOU KNOW WHY?

2×   +7

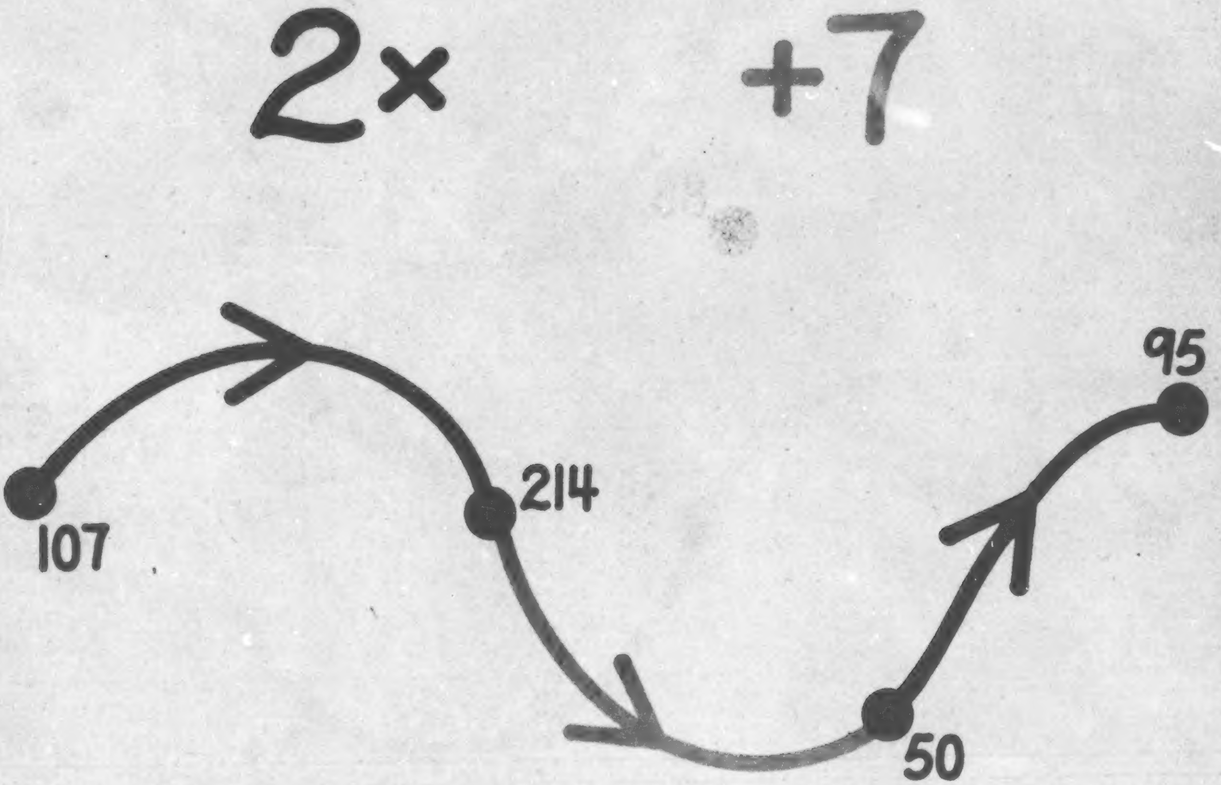

107
214
50
95



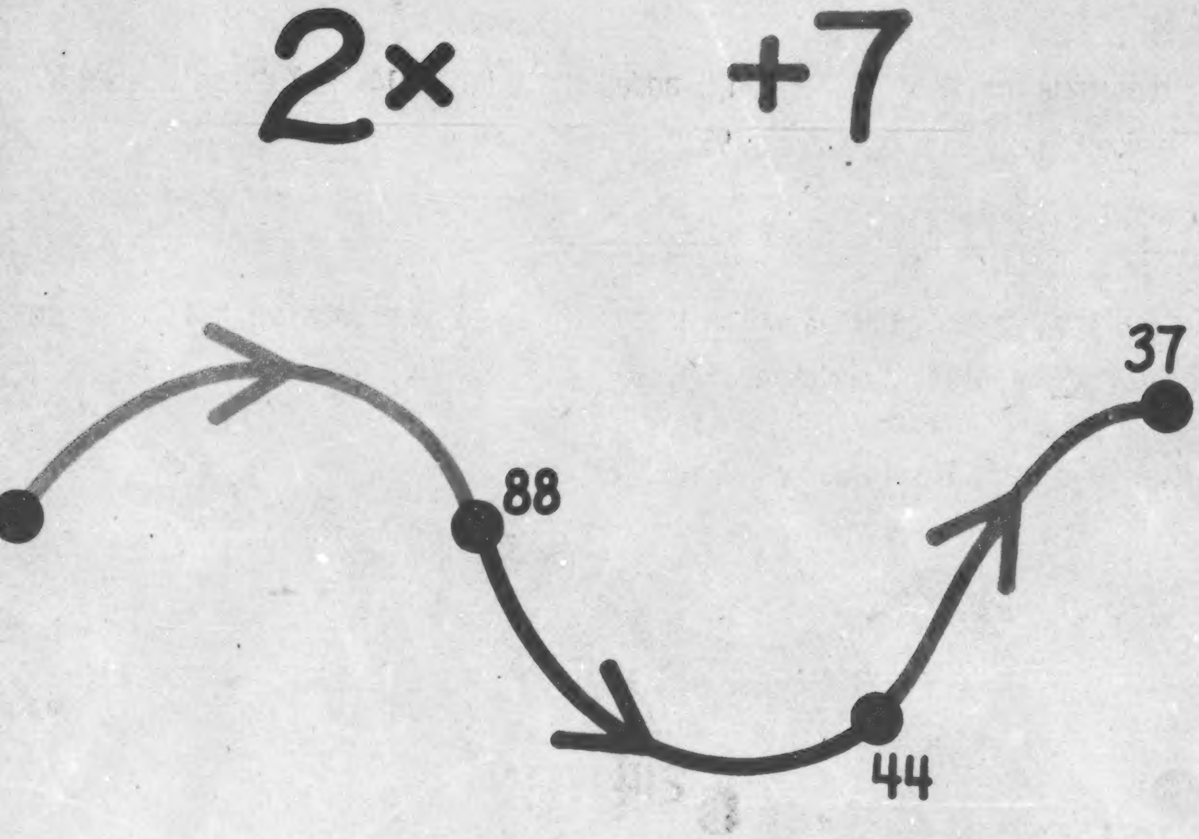
"You silly numbers," said 100. "You were very careless. You didn't look at the picture. You just ran and took places without thinking."

The numbers were very quiet.

"It is true that 2 x 107 = 214," added 100. "But 214 + 7 doesn't equal 50. Besides, I am 2 x 50 and not 95."



Then 100 looked at the second part of the picture.



"It's completely wrong! You didn't even notice which way the arrows are pointing, did you?"

"Let's start again," suggested 50.

"But how do we find our places?" asked 88. "This picture is really complicated."

"Which of us is the smallest?" asked 100.

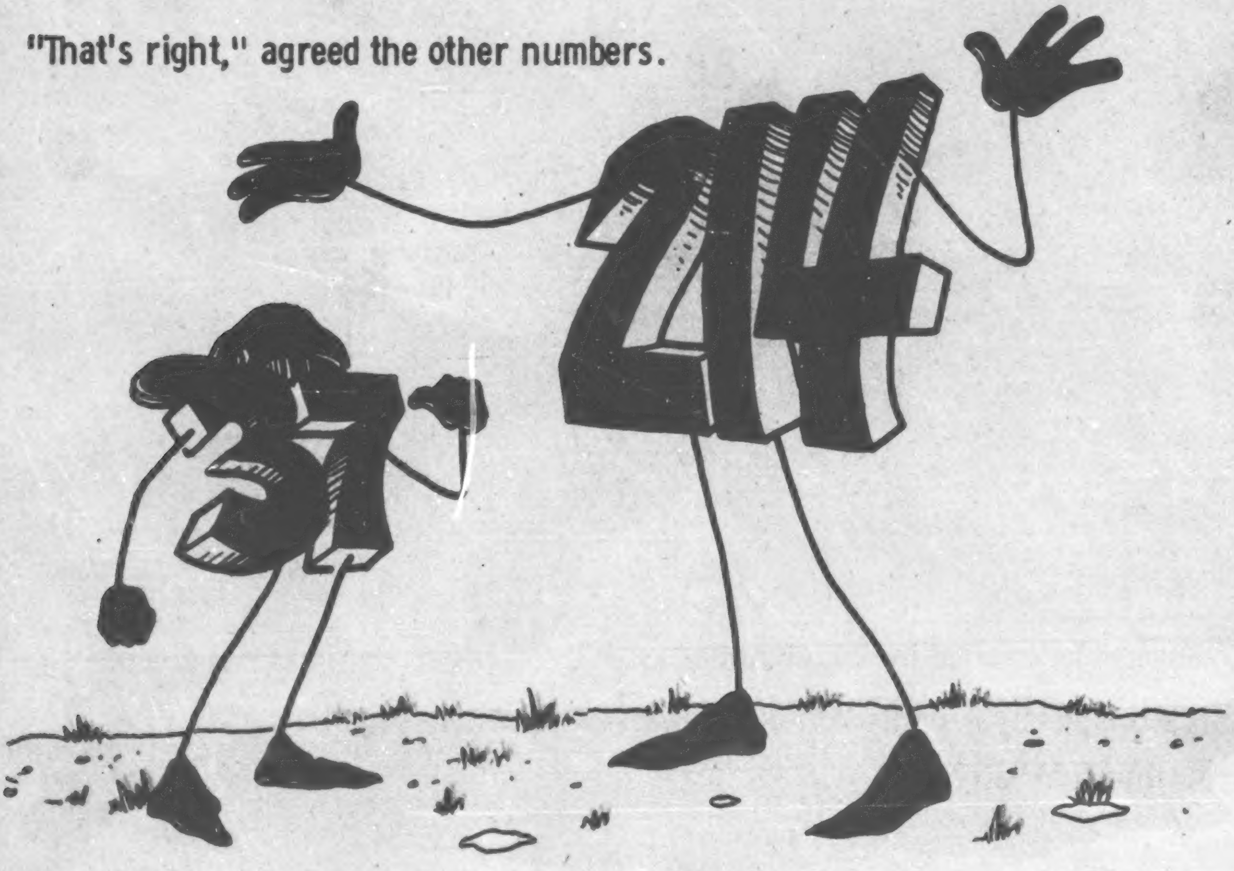
"I am," said 37.

"And who's the largest?"

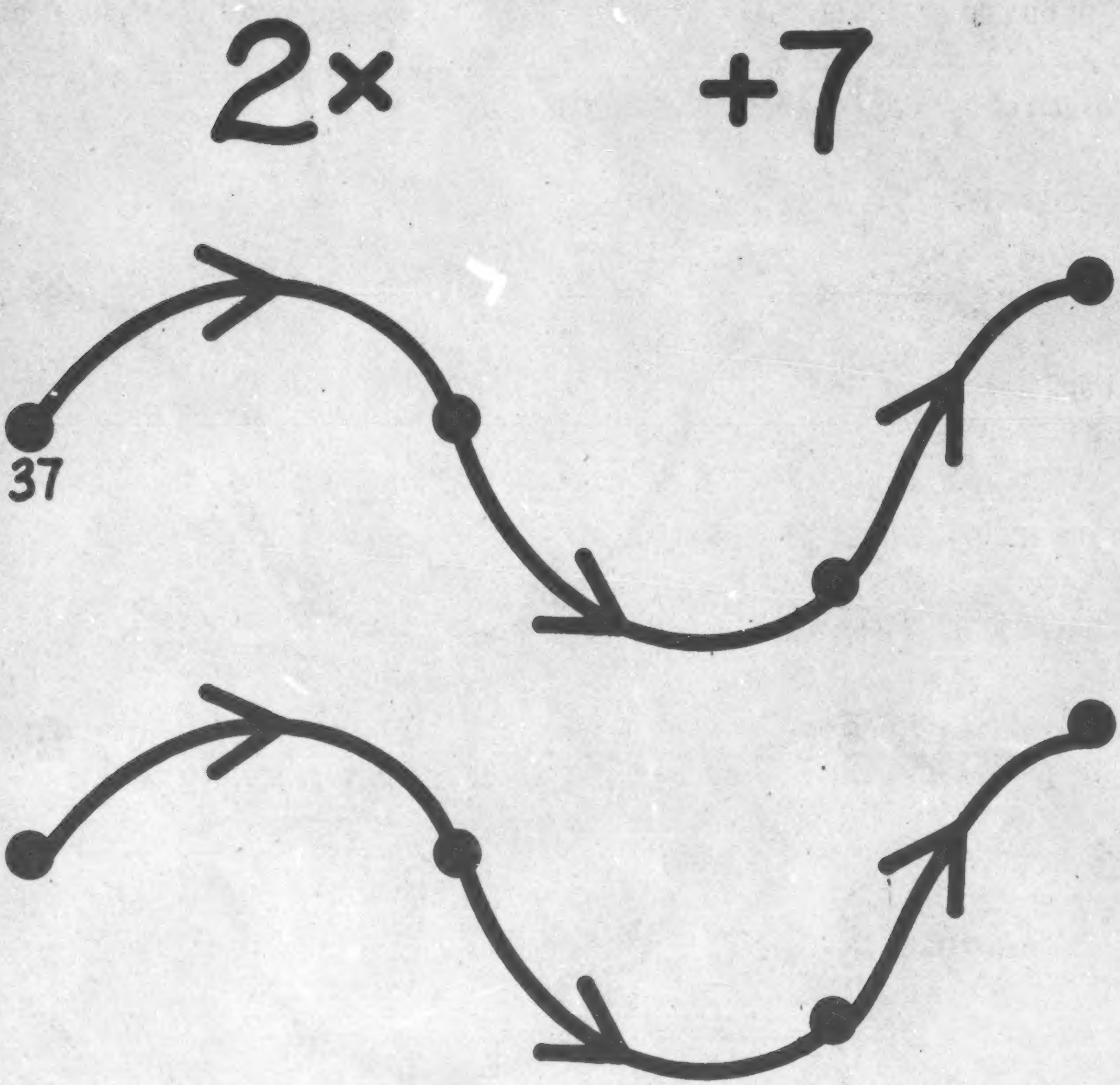
"I am," answered 214.

"Therefore, in our game 37 will be one of the starting points and 214 will be one of the ending points," concluded 50.

"That's right," agreed the other numbers.

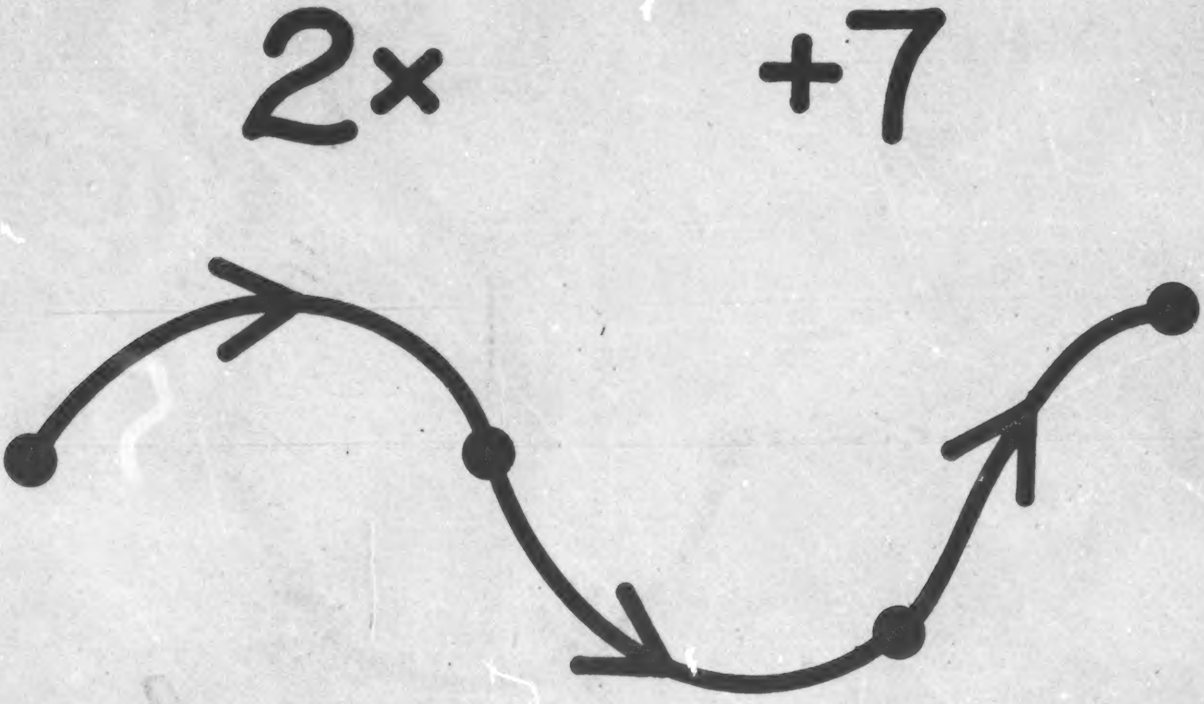


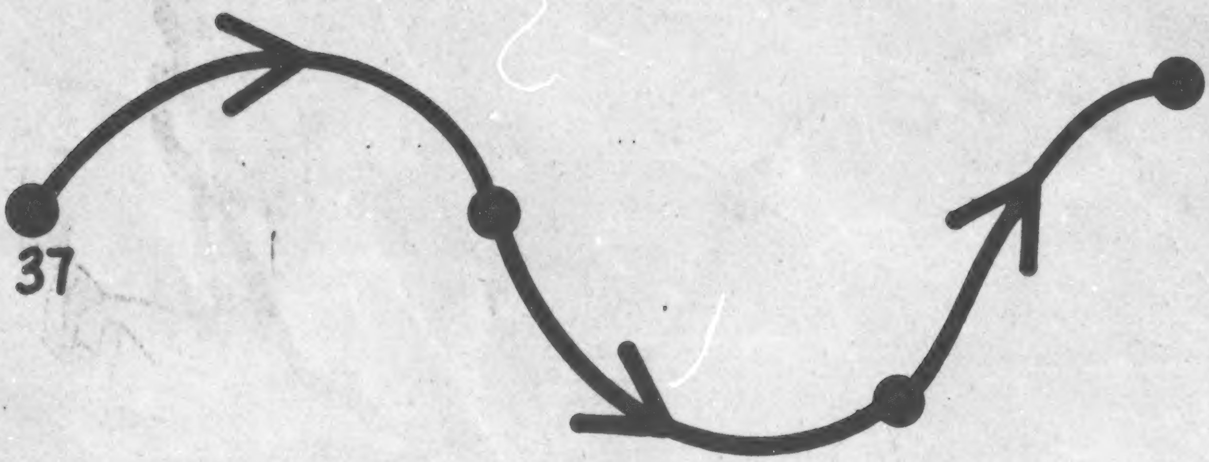
Without another thought, 37 jumped to one of the starting points.



"Impossible," yelled the other numbers. "2 x 37 = 74 but 74 is not one of us."

Quickly, 37 ran to the other starting point.





"Now it's easy to find our places," said 44, 88, 95, 214, 107, 100, and 50.

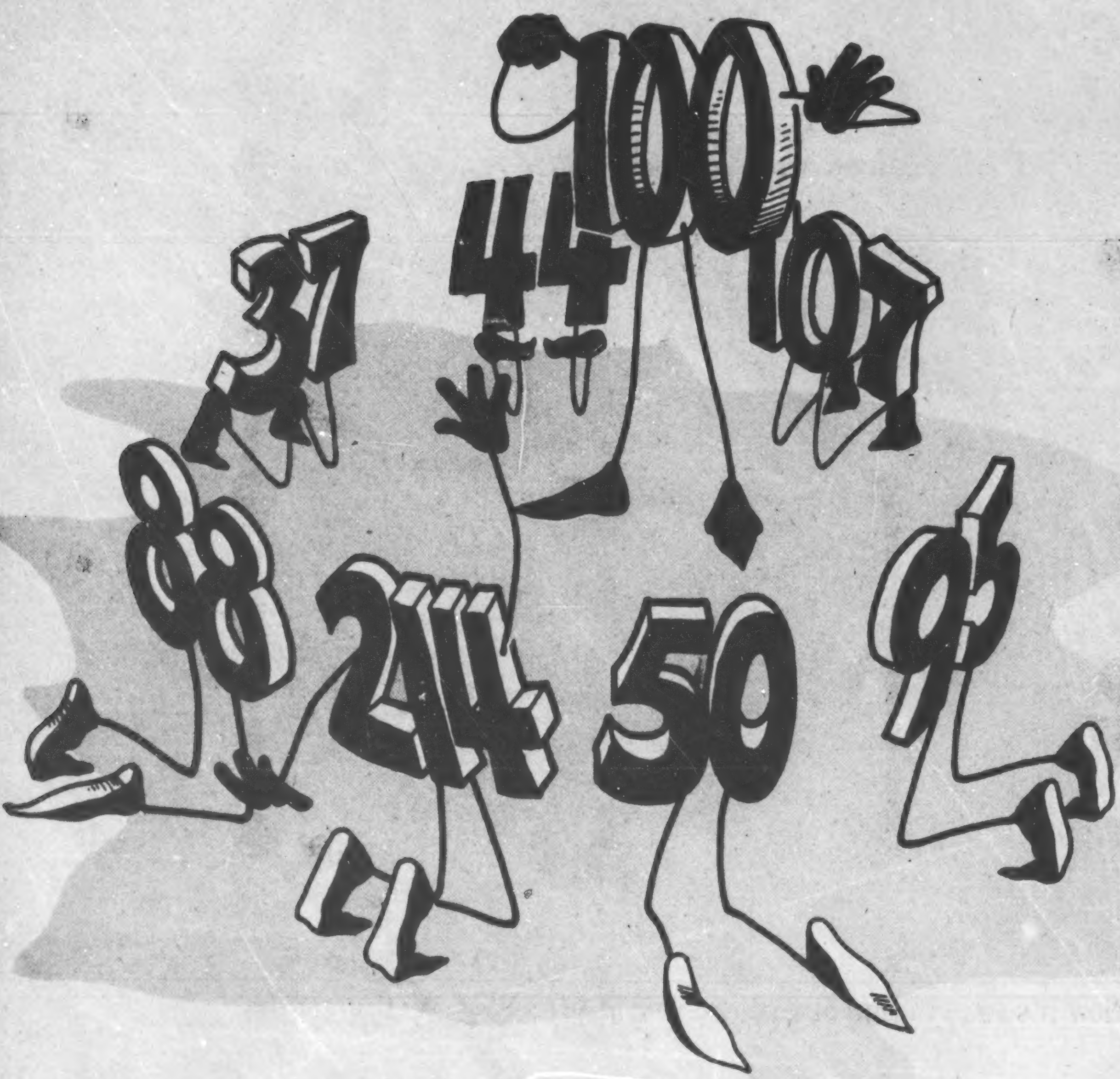
LABEL THE DOTS IN THIS ARROW PICTURE.

DID YOU LABEL THE DOTS CORRECTLY ON PAGE 4?

"Let's play a new game," suggested 214.

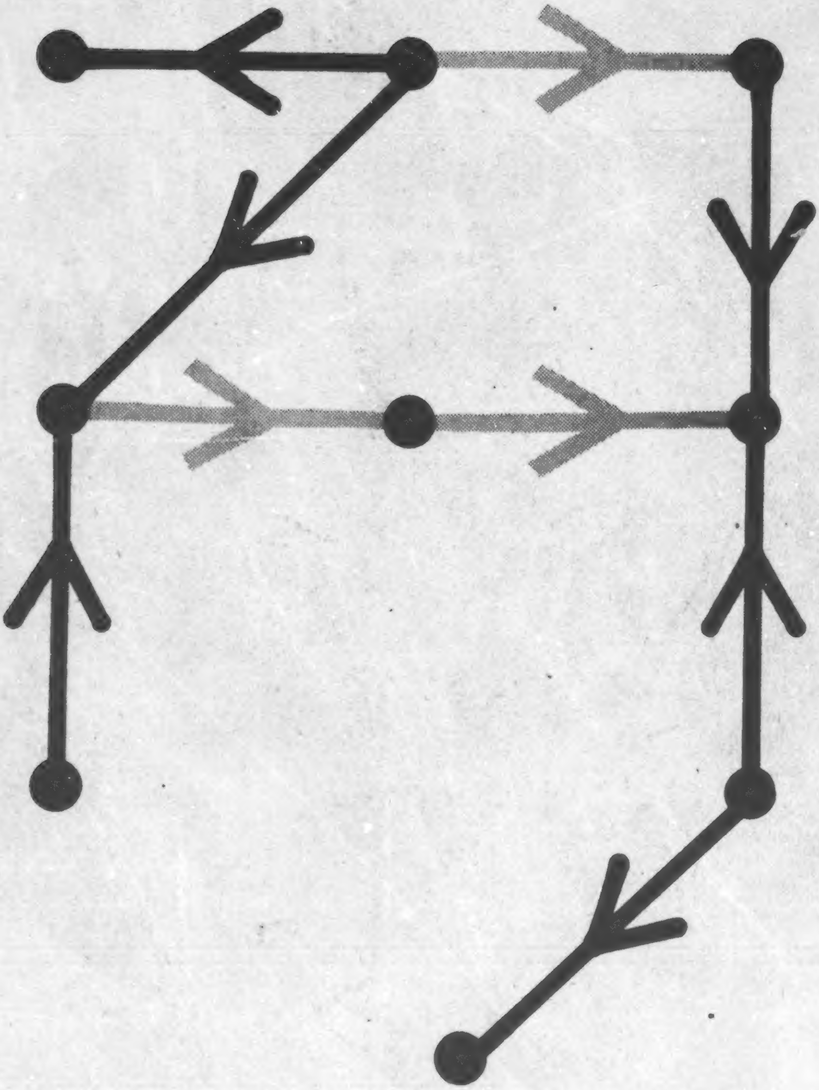
"OK," said 100. "But this time, please, think before acting."

"We'll try," promised the numbers.


100
44
37
107
88
214
50
96

100 drew a new picture on the ground.

2× −7 +6

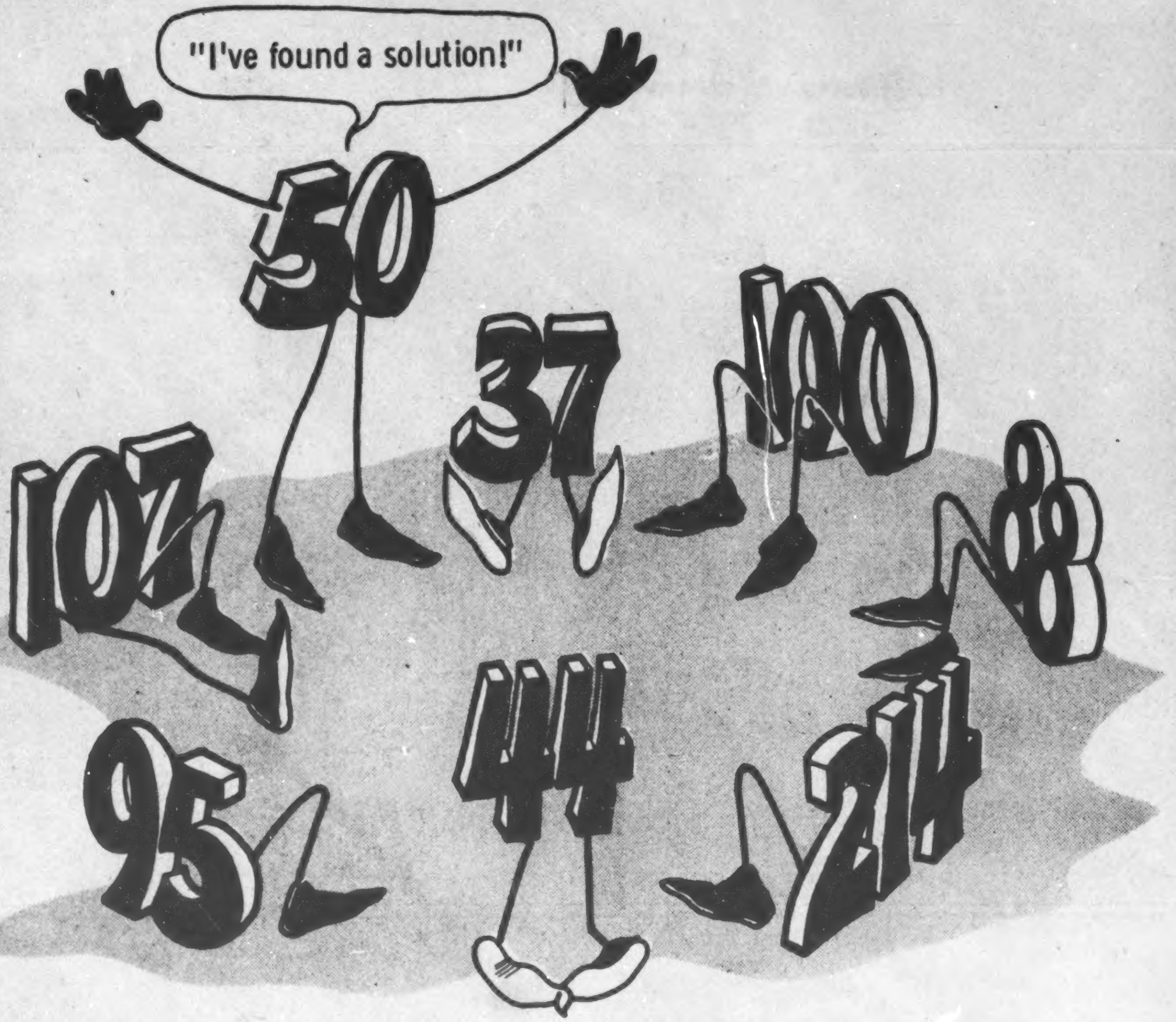


"Whew?" sighed the numbers. "This game is not easy to play!"

"There are nine dots and there are only eight of us," observed 88.

"That's true," said 100. "We will need another friend to complete the picture."

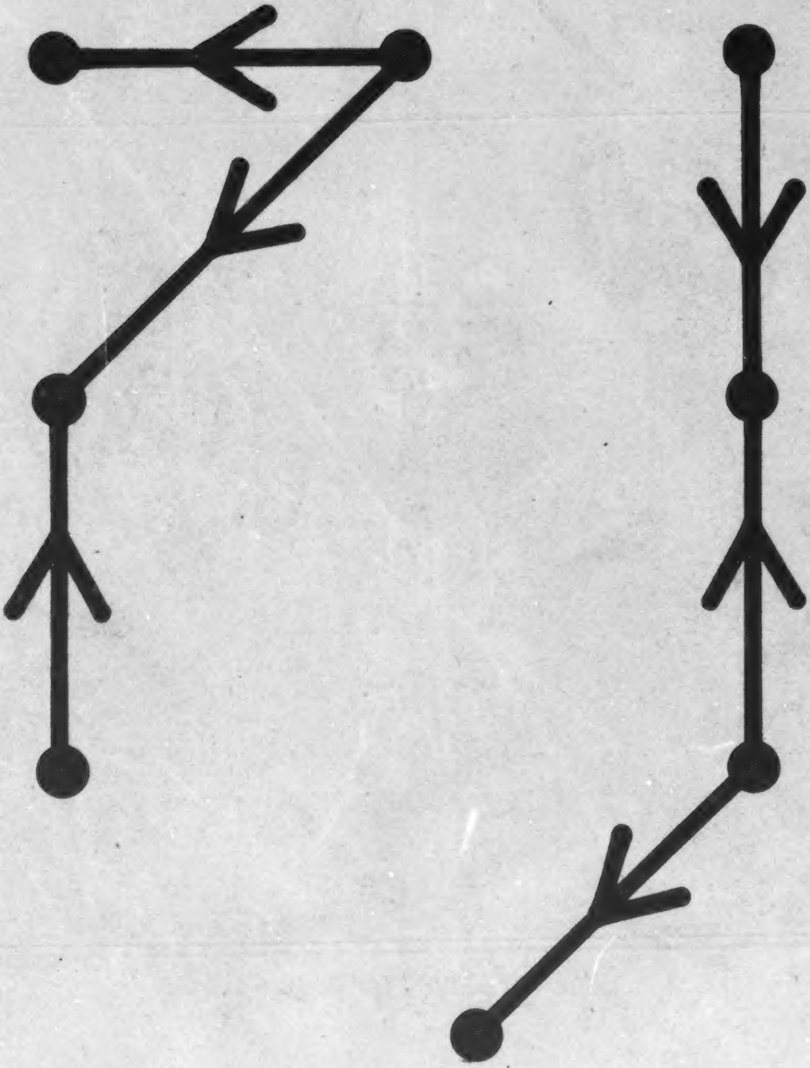
The numbers were silent for a while. Suddenly, 50 shouted:


"I've found a solution!"
50
37
100
107
88
95
44
24

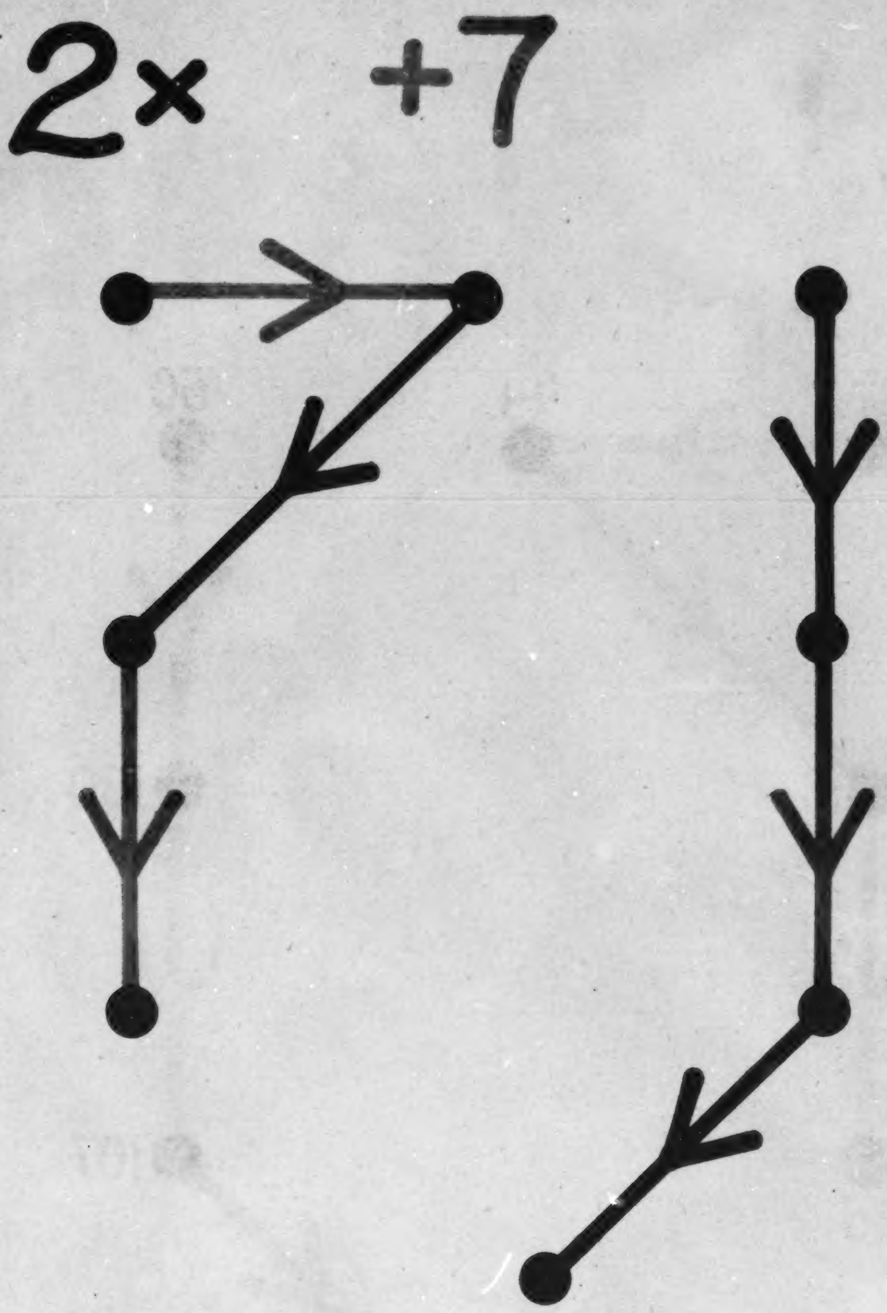
CAN YOU SOLVE THE PROBLEM? LABEL THE DOTS ON PAGE 14.

"Look at the picture and forget about the grey arrows," suggested 50.

2× −7



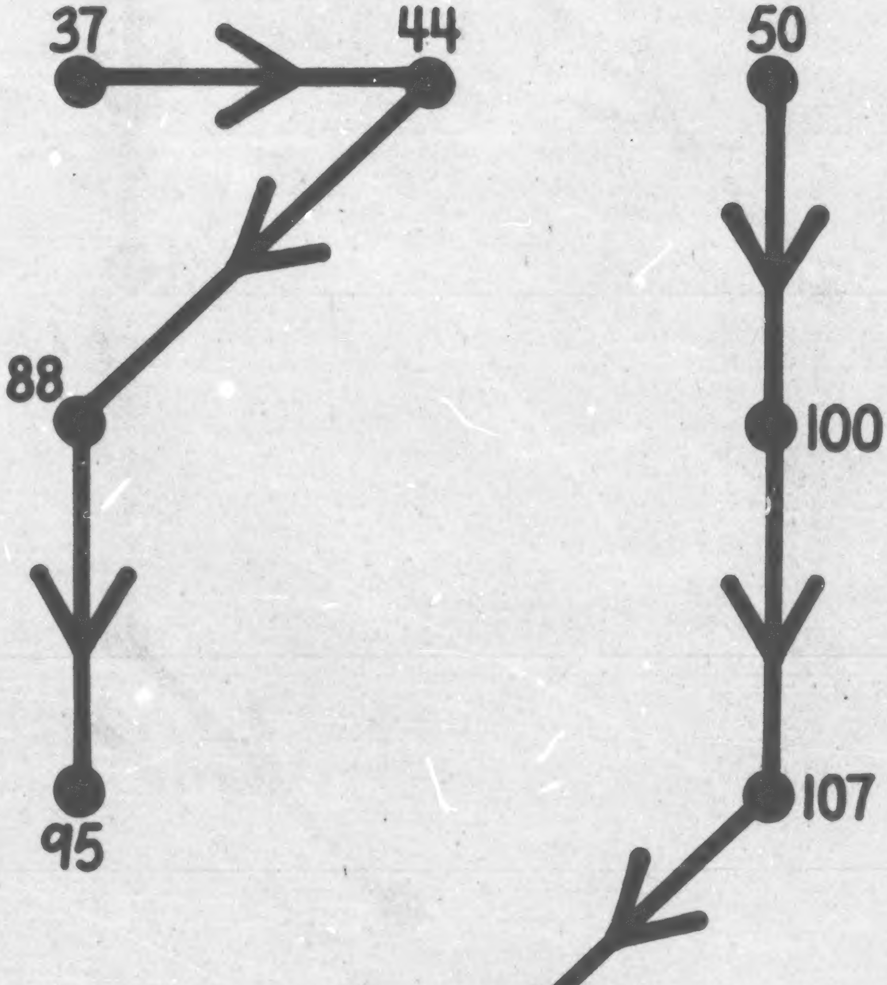
"Replace each -7 arrow by its return arrow," 50 went on.

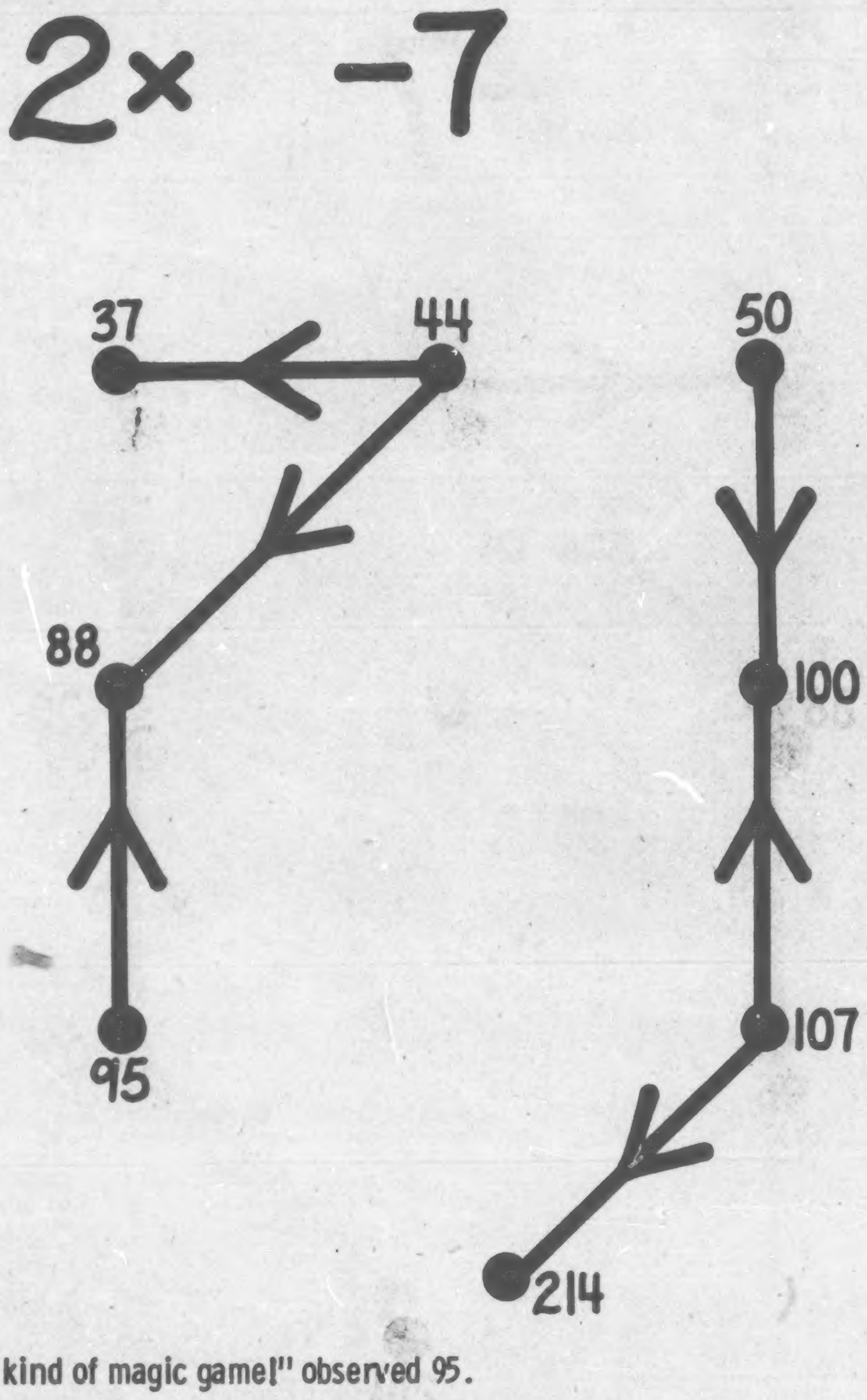


"Doesn't that look like the game we played on page 4?"

"That's true," agreed the other numbers. "Now it's easy to find our dots."

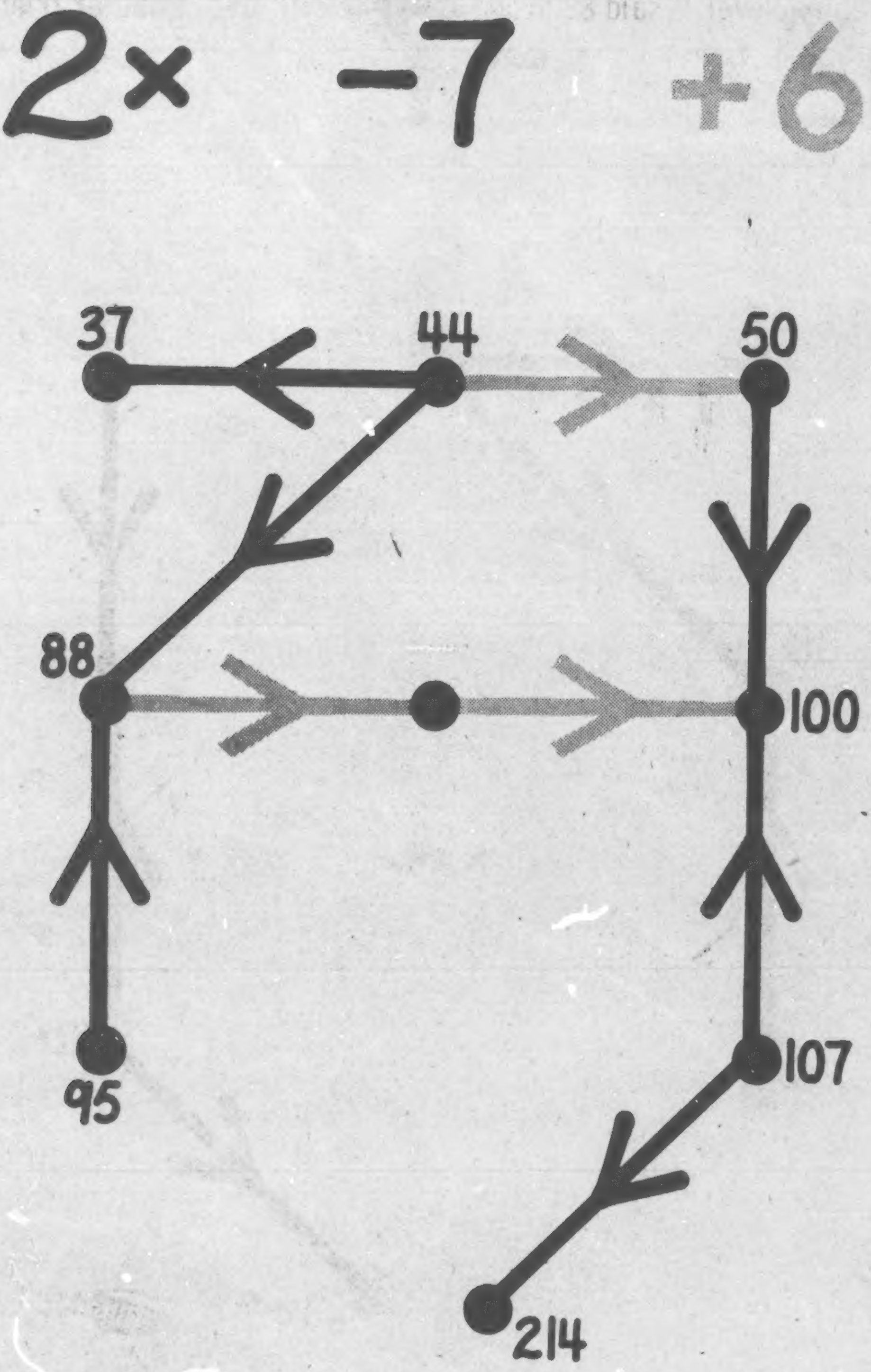
2× +7


37
44
88
95
50
100
107
214


2× −7
37
44
50
88
100
95
107
214

"It's a kind of magic game!" observed 95.

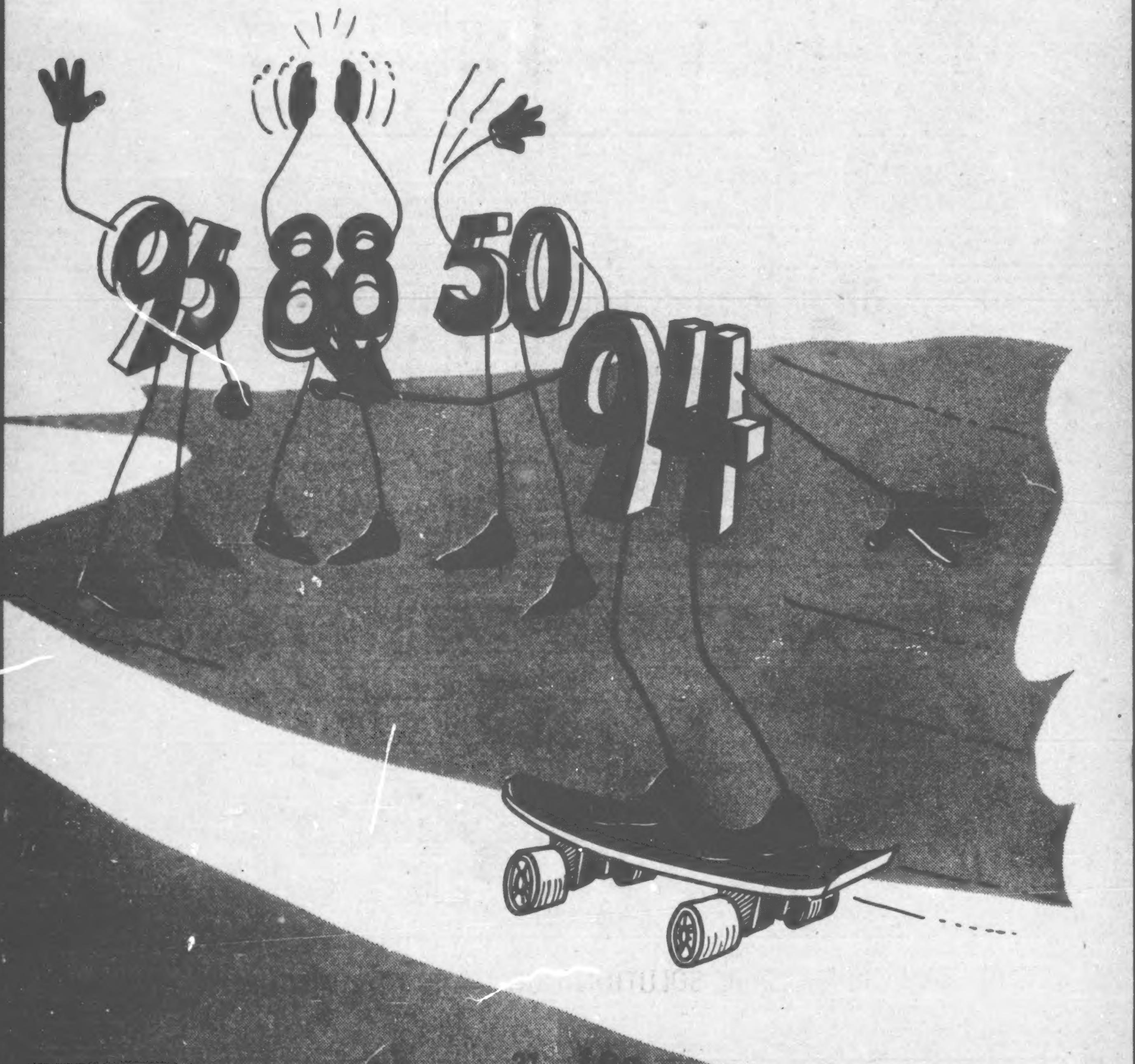
"But we should not forget to add the grey arrows," said 100.


2×
−7
+6
37
44
50
88
100
95
107
214

DID YOU FIND THE SAME SOLUTION? COMPARE THIS PICTURE TO PAGE 14.

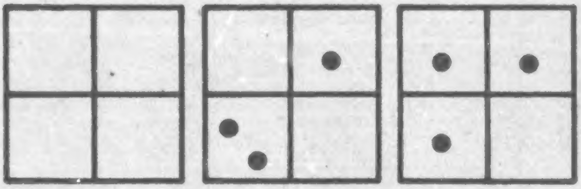
"You are really clever," said 88 to 50. "But we still need another friend to complete our picture."

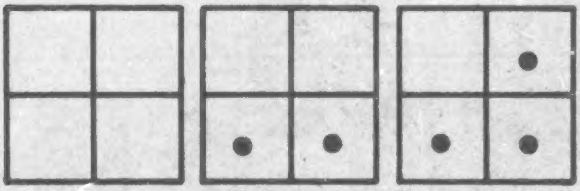
"Let's invite 94," suggested 95. "94 is the missing number because 88 + 6 = 94 and 94 + 6 = 100."

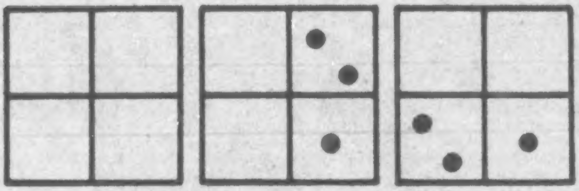


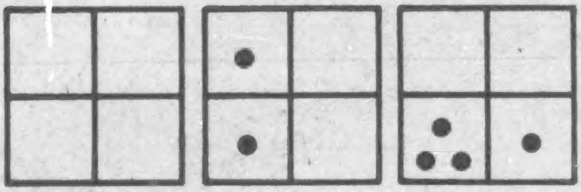
"I am tired of all this thinking," said 37. "I have an awful headache. Let's rest on our Minicomputer boards."

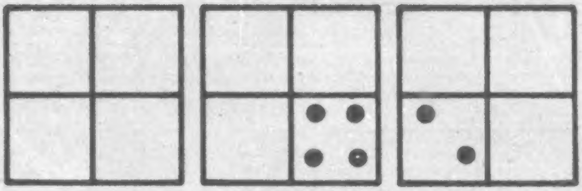
The numbers sat down quietly.

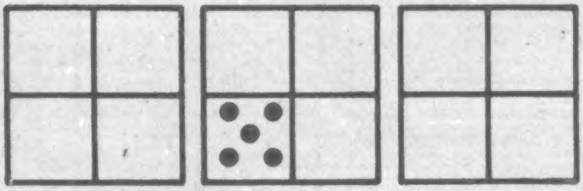


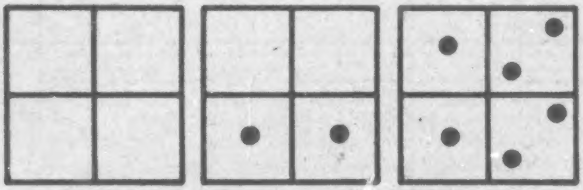


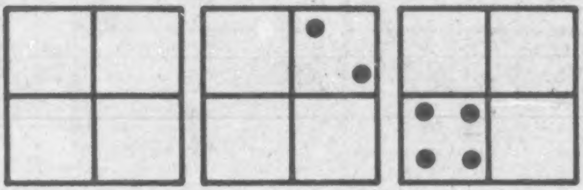


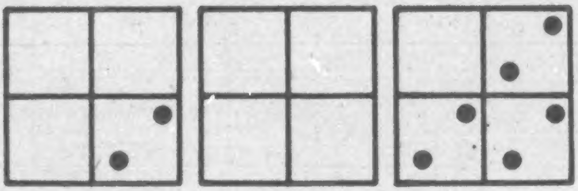






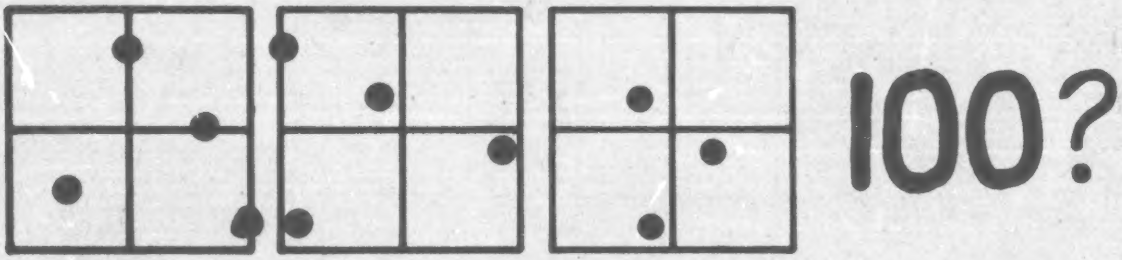


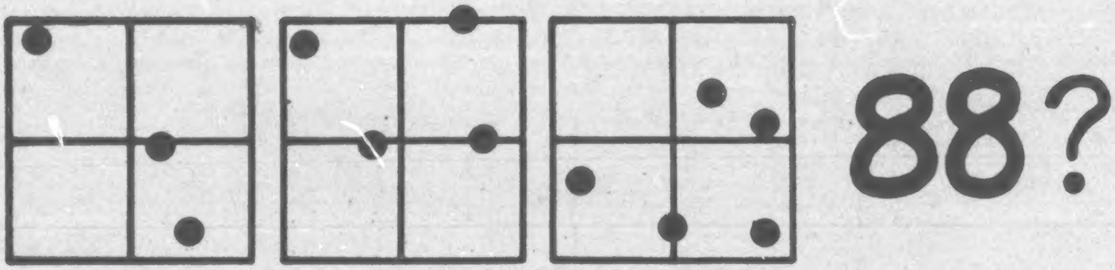




DO YOU RECOGNIZE EACH OF OUR FRIENDS? WRITE THEIR NAMES TO THE RIGHT OF THE MINICOMPUTERS.

"I'm getting bored with all this resting," yawned 50, getting up. 50 mixed up all the checkers and threw a lot of new checkers onto the Minicomputer boards of 100 and 88.



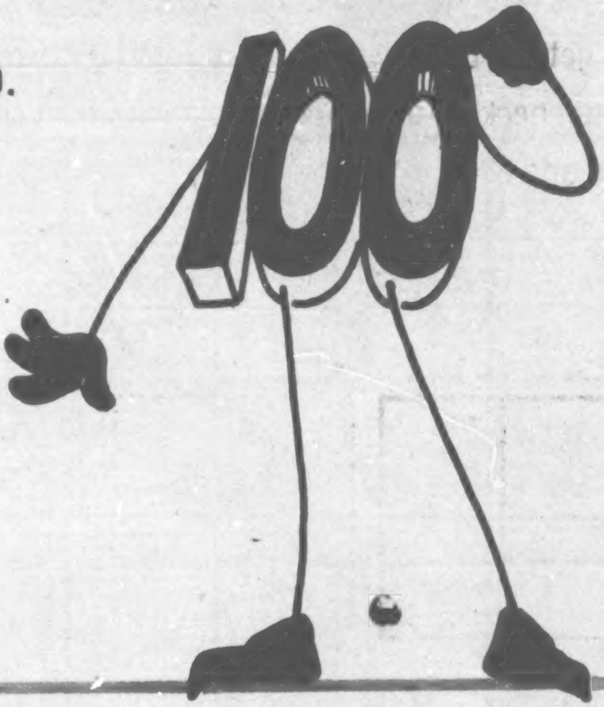


"Why did you do that?" cried 88. "I am all confused. I can't recognize myself anymore.

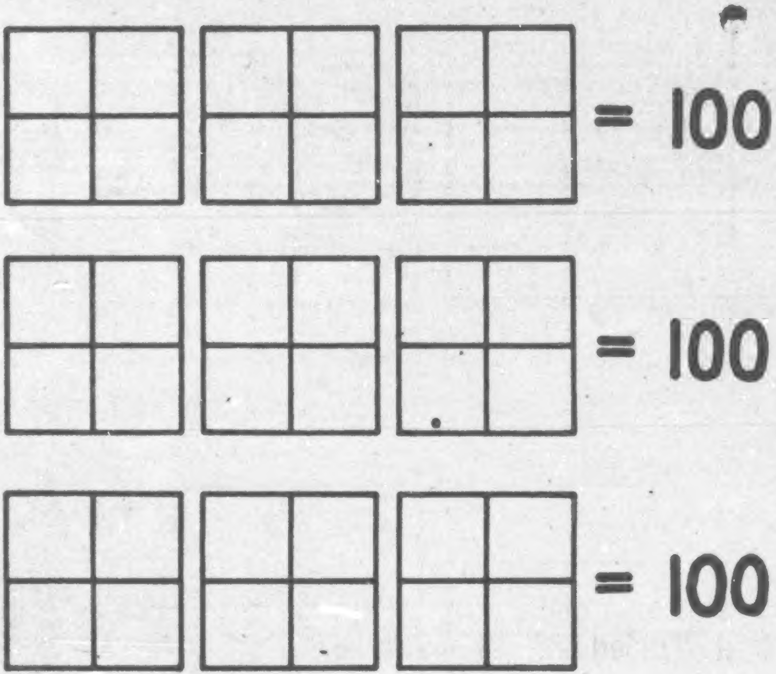
"Crying doesn't help," advised 100. "Let us try to find a solution."

100 thought for a while.

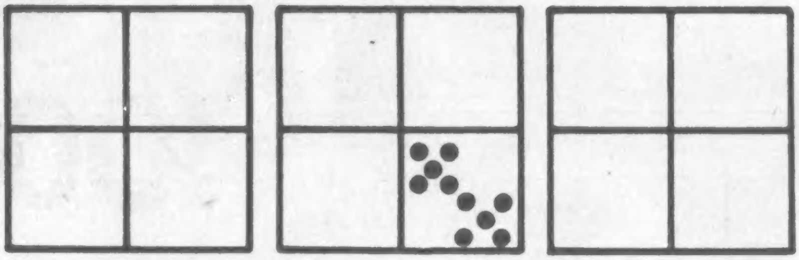
"There are ten checkers on my Minicomputer. I can easily use them all to show myself."



SOLVE THE PROBLEM FOR 100. BE SURE TO USE ALL TEN CHECKERS. THERE ARE MANY WAYS OF DOING IT. SHOW SOME OF THEM BELOW.

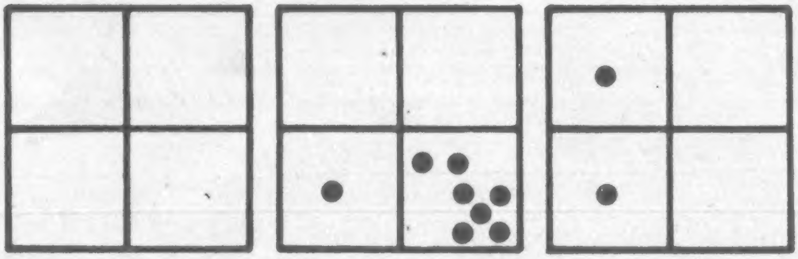


"Here I am!" said 100 happily.



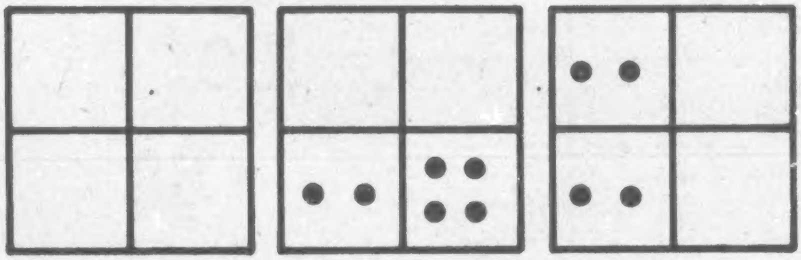
= 100

"It's me again," 100 shouted.



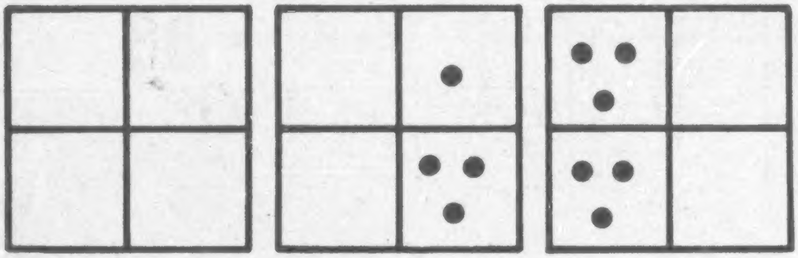
= 100

"And again."



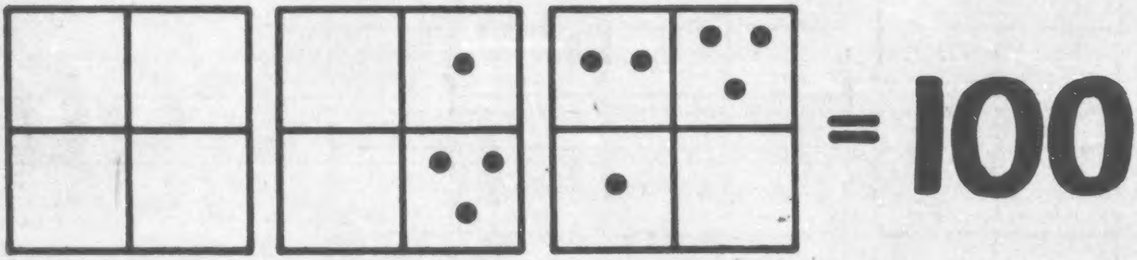
= 100

"And again."



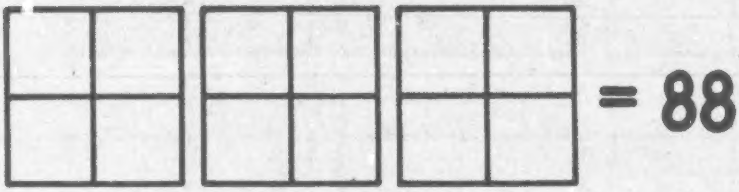
= 100

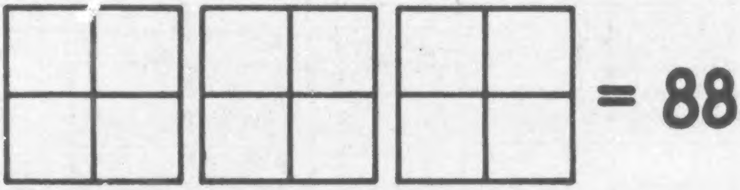
"And again."

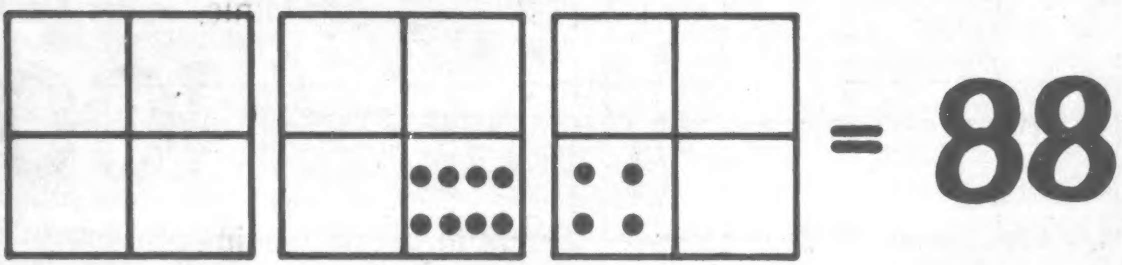


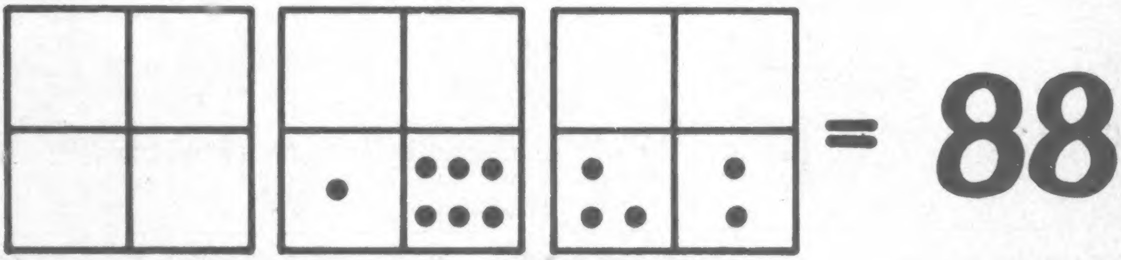
"Your game is fun," said 88. "I will play it with my twelve checkers."

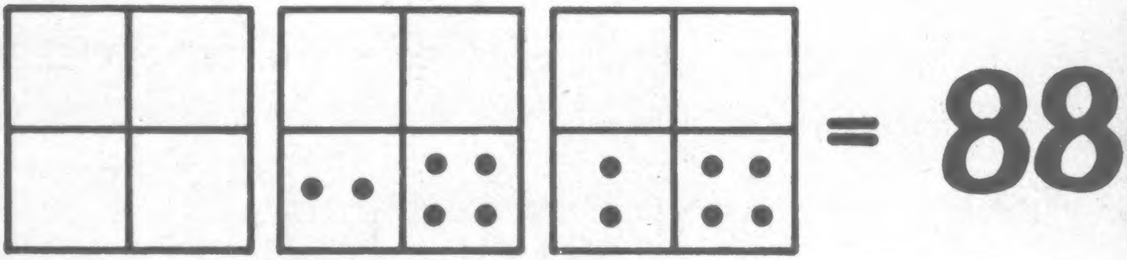
PLAY THE GAME FOR 88. BE SURE TO USE EXACTLY TWELVE CHECKERS. WRITE YOUR ANSWERS BELOW.

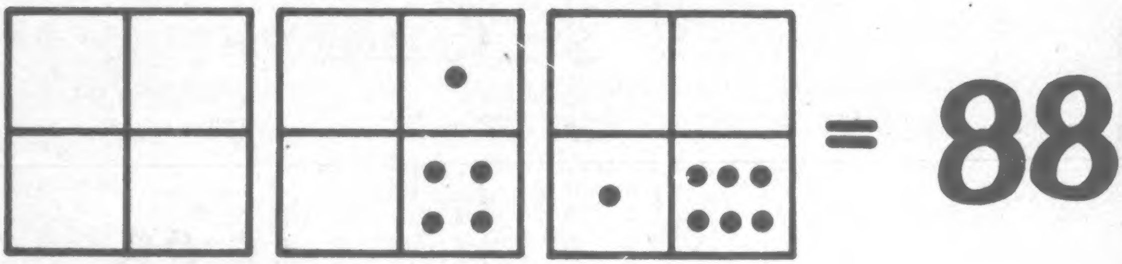












DID YOU FIND MANY OTHER SOLUTIONS?

The other numbers cheered for 100 and 88.

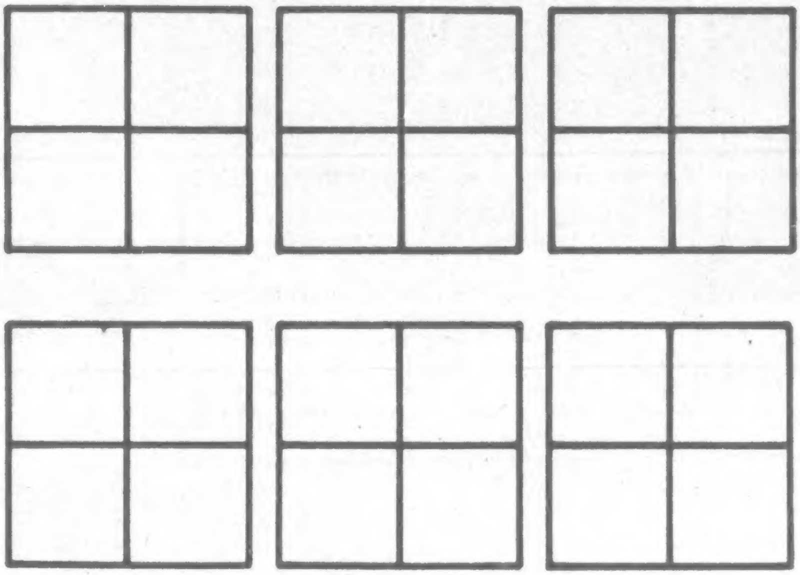
"Let's see who can use the most checkers to sit on the Minicomputer," said 95.

CAN YOU GUESS WHICH OF THESE NINE NUMBERS CAN USE THE MOST CHECKERS?

"Let's see who can use the fewest checkers to sit on the Minicomputer," suggested 37.

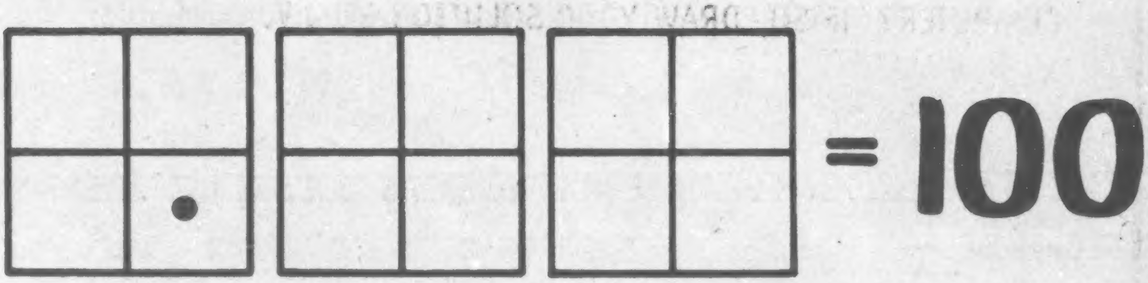
CAN YOU GUESS WHICH OF THESE NINE NUMBERS CAN USE THE FEWEST CHECKERS?

SHOW YOUR ANSWERS BELOW.

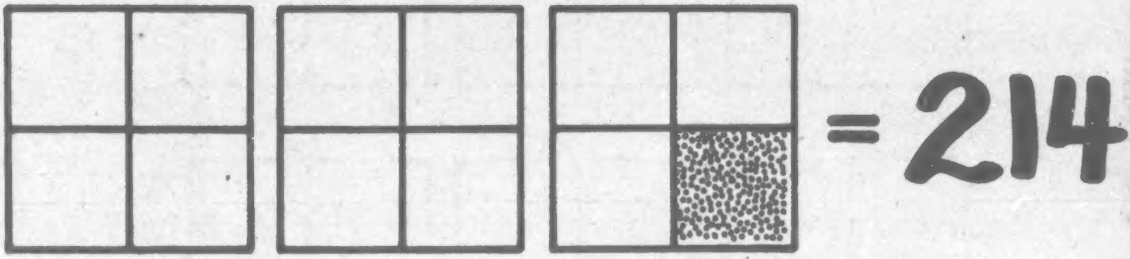


"Here I am with just one checker," said 100 proudly. "I am the only one of us who can do that."

"That's right," agreed the other numbers.



"Here I am with 214 checkers," said 214. "Can anyone do better than that?"



WHAT DO YOU THINK OF THIS PROBLEM?

DO YOU THINK IT IS POSSIBLE FOR ANY OF THESE NUMBERS TO USE EVEN MORE THAN 214 CHECKERS TO SHOW THEMSELVES ON THE MINICOMPUTER? IF SO, DRAW YOUR SOLUTION BELOW.

This is the end of the story of our nine friends who are happy to sign their book.

8×11 $\qquad$ 20×5

$\frac{1}{2} \times 428$ $\qquad$ $50 - 6$

$(5 \times 7) + 2$ $\qquad$ 2×47

$120 - 13$ $\qquad$ $\frac{1}{3} \times 150$

$(2 \times 50) - 5$

DO YOU RECOGNIZE THEM? WRITE THEIR USUAL NAMES NEXT TO THEIR SIGNATURES. CAN YOU INVENT NEW SIGNATURES FOR EACH NUMBER? WRITE THEM ON A SEPARATE PIECE OF PAPER.

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Name ______________________

UPG - IV, Lessons N17, N21,
N25, N32

3-45901

SE

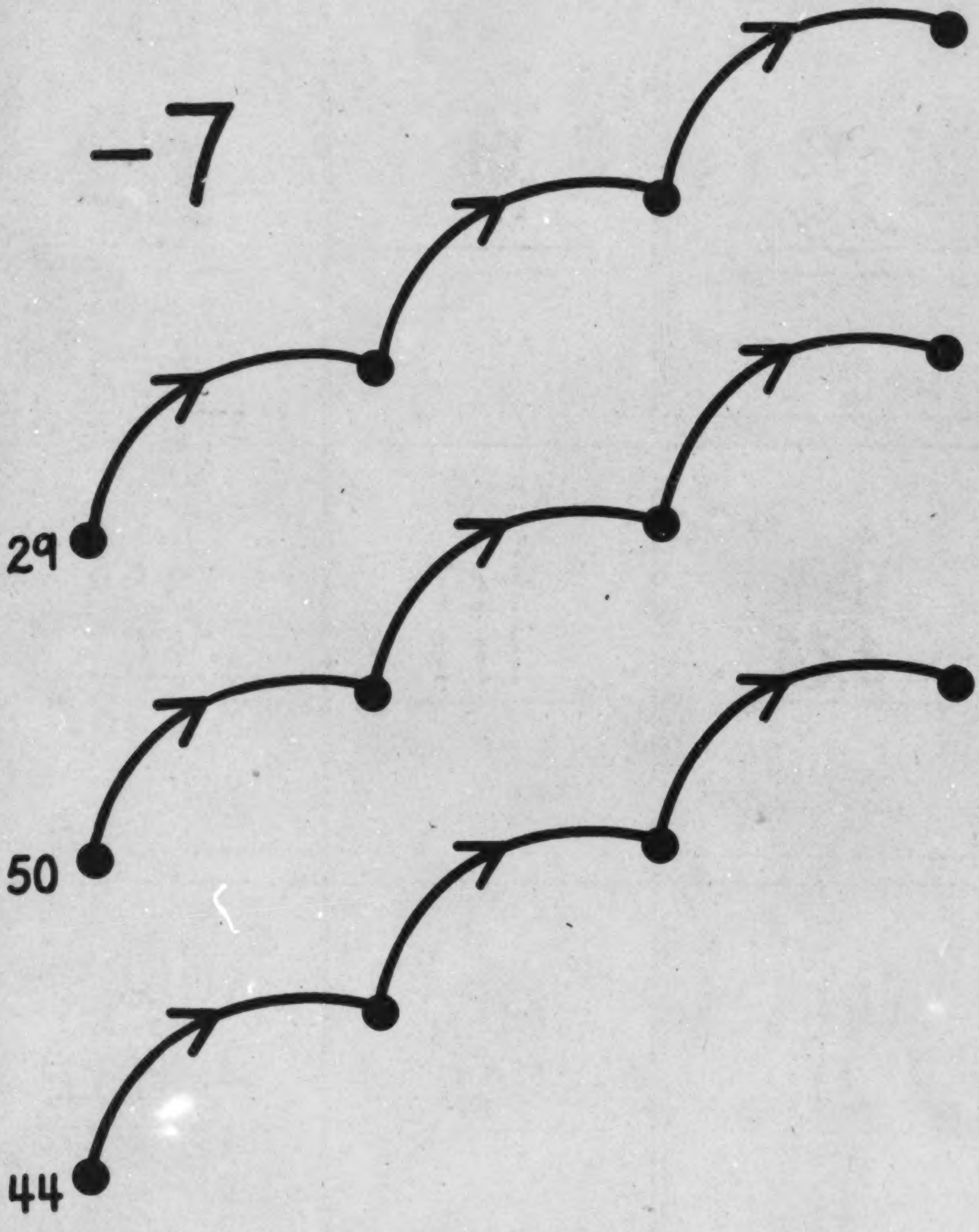
Subtraction Problems

MAY 1 6 1980

Subtract.

56 − 21	45 − 13	57 − 34
73 − 33	87 − 52	69 − 51
159 − 30	268 − 166	100 − 20

Label the dots.



Subtract.

$\begin{array}{r}78\\-32\\\hline\end{array}$	$\begin{array}{r}108\\-91\\\hline\end{array}$	$\begin{array}{r}96\\-50\\\hline\end{array}$
$\begin{array}{r}648\\-325\\\hline\end{array}$	$\begin{array}{r}127\\-117\\\hline\end{array}$	$\begin{array}{r}354\\-152\\\hline\end{array}$
$\begin{array}{r}1{,}463\\-212\\\hline\end{array}$	$\begin{array}{r}607\\-405\\\hline\end{array}$	$\begin{array}{r}1{,}738\\-637\\\hline\end{array}$

Complete.

12 − 8 = ___

22 − 8 = ___

32 − 8 = ___

16 − 7 = ___

26 − 7 = ___

36 − 7 = ___

14 − 6 = ___

24 − 6 = ___

34 − 6 = ___

15 − 9 = ___

25 − 9 = ___

35 − 9 = ___

13 − 9 = ___

23 − 9 = ___

33 − 9 = ___

14 − 8 = ___

24 − 8 = ___

34 − 8 = ___

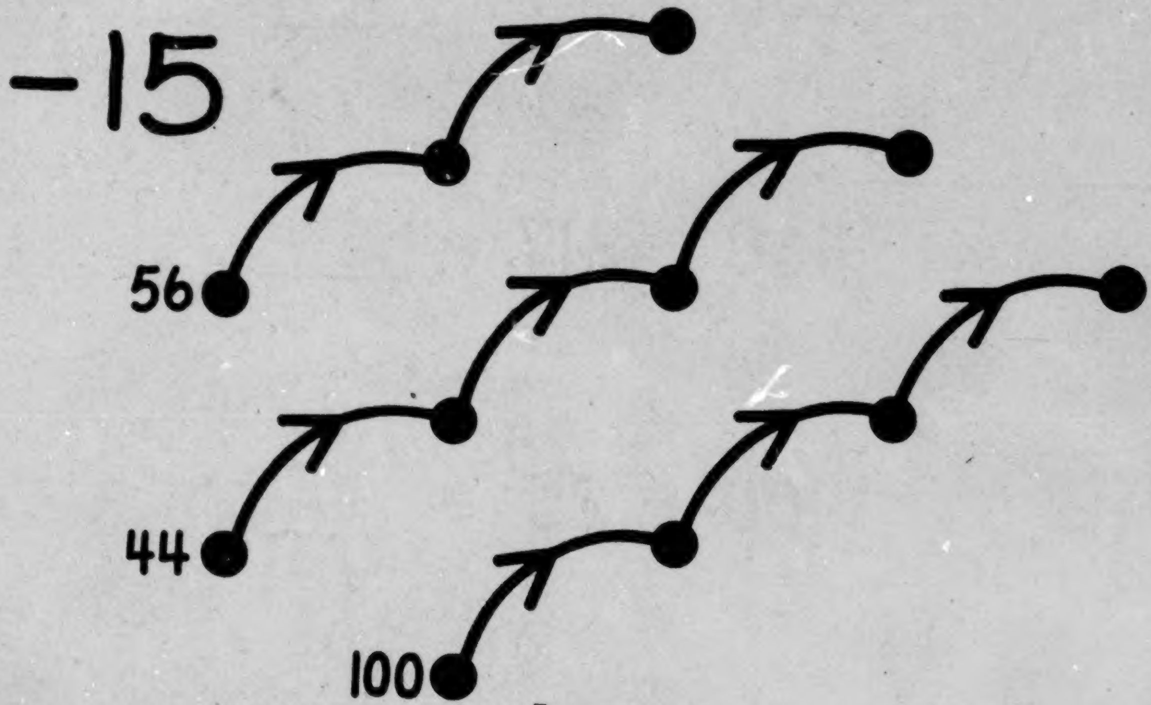
Subtract.

$\begin{array}{r} 4\overset{10}{3} \\ -\ \overset{\vert}{1}4 \\ \hline \end{array}$	$\begin{array}{r} 7\overset{10}{2} \\ -\ \overset{\vert}{4}4 \\ \hline \end{array}$	$\begin{array}{r} 8\overset{10}{1} \\ -\ \overset{\vert}{2}3 \\ \hline \end{array}$
$\begin{array}{r} 60 \\ -\ 25 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ -\ 77 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ -\ 27 \\ \hline \end{array}$
$\begin{array}{r} 56 \\ -\ 48 \\ \hline \end{array}$	$\begin{array}{r} 80 \\ -\ 59 \\ \hline \end{array}$	$\begin{array}{r} 101 \\ -\ 50 \\ \hline \end{array}$

Subtract.

50 − 26	41 − 24	43 − 38
426 − 312	371 − 222	356 − 40

Label the dots.



Complete.

35 − 45 = ____

263 − 121 = ____

352 − 38 = ____

200 − 99 = ____

460 − 217 = ____

100 − 25 = ____

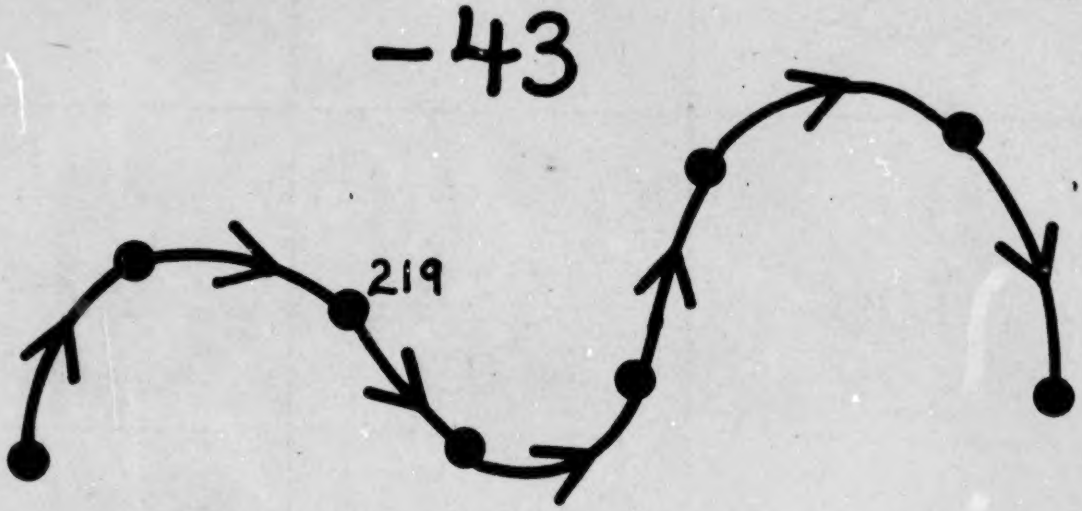
Subtract.

174 - 65	365 - 28	259 -132
6,152 -2,048	7,933 -5,617	5,472 - 306
706 - 524	572 - 47	629 -598

Subtract.

615 - 475	707 - 332	462 - 155	518 - 104
10 153 - 1 63	663 - 247	538 - 367	984 - 576

Label the dots.

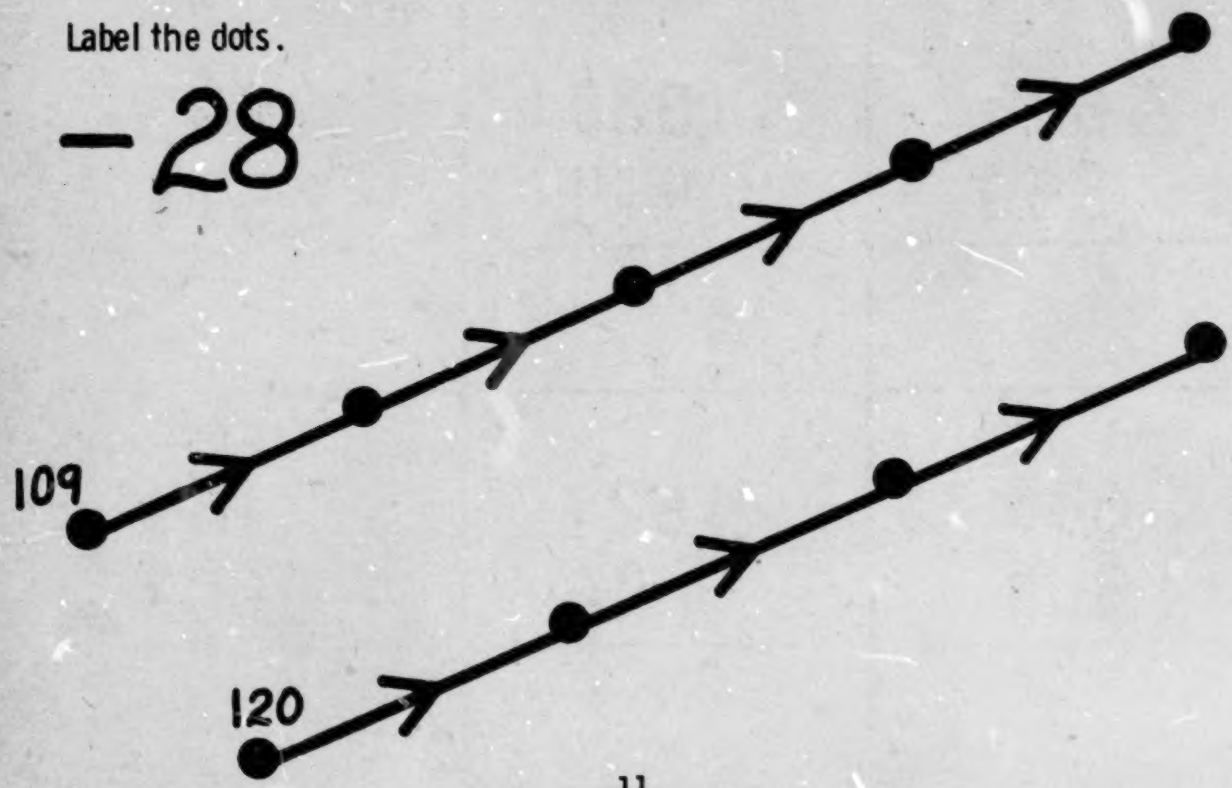


Subtract.

1,451 − 339	2,603 −1,063	3,580 − 436
5,069 −2,245	1,719 − 359	18,217 − 609

Label the dots.

−28



Subtract.

653 - 206	827 - 754	147 - 75
873 - 618	416 - 284	496 - 369
5,829 - 390	1,028 - 414	2,873 - 2,618
2,648 - 1,908	4,627 - 96	7,164 - 5,008

Complete.

636 − 386 = ____

503 − 261 = ____

885 − 467 = ____

1,387 − 956 = ____

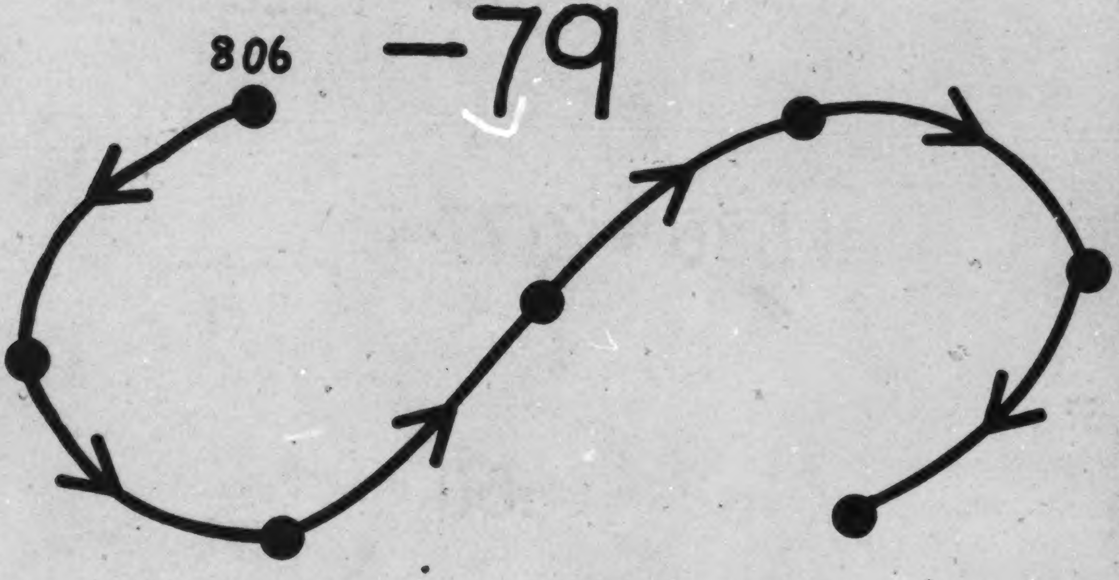
4,586 − 2,177 = ____

2,163 − 660 = ____

Subtract.

$\begin{array}{r} 5\overset{10}{0}\overset{10}{0} \\ -174 \\ \hline \end{array}$	$\begin{array}{r} 153 \\ -\ 69 \\ \hline \end{array}$	$\begin{array}{r} 876 \\ -485 \\ \hline \end{array}$
$\begin{array}{r} 156 \\ -\ 59 \\ \hline \end{array}$	$\begin{array}{r} 1{,}860 \\ -\ 75 \\ \hline \end{array}$	$\begin{array}{r} 928 \\ -589 \\ \hline \end{array}$

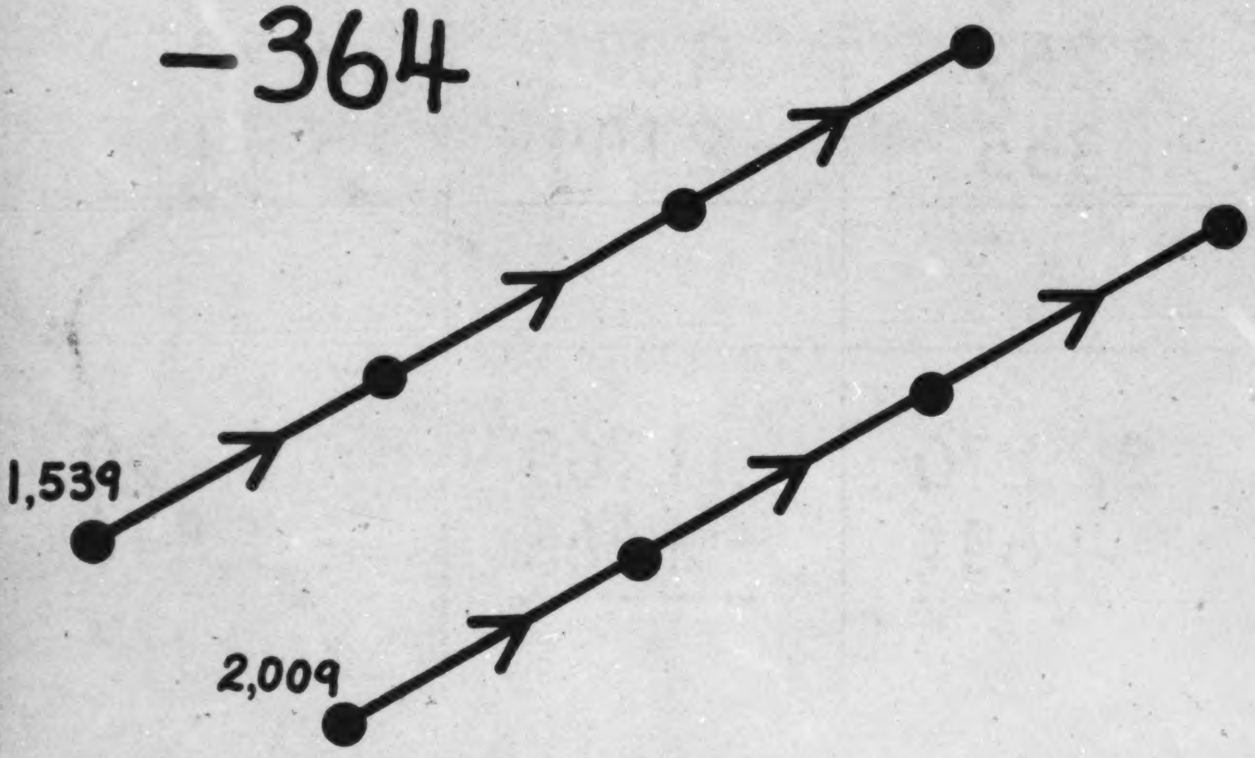
Label the dots.



Subtract.

$\begin{array}{r} 3{,}456 \\ -1{,}852 \\ \hline \end{array}$	$\begin{array}{r} 6{,}072 \\ -\ 429 \\ \hline \end{array}$	$\begin{array}{r} 5{,}329 \\ -1{,}890 \\ \hline \end{array}$
$\begin{array}{r} 5{,}900 \\ -\ 358 \\ \hline \end{array}$	$\begin{array}{r} 1{,}397 \\ -\ 538 \\ \hline \end{array}$	$\begin{array}{r} 1{,}\overset{10}{0}\overset{10}{0}\overset{10}{0} \\ -\ 679 \\ \hline \end{array}$

Label the dots.



Subtract.

9,024 − 3,567	8,204 − 7,999	7,001 − 643
3,760 − 584	5,000 − 2,027	2,546 − 1,494
3,253 − 1,355	9,086 − 2,194	4,800 − 999
22,270 − 4,631	14,200 − 8,663	10,000 − 9,876

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SE

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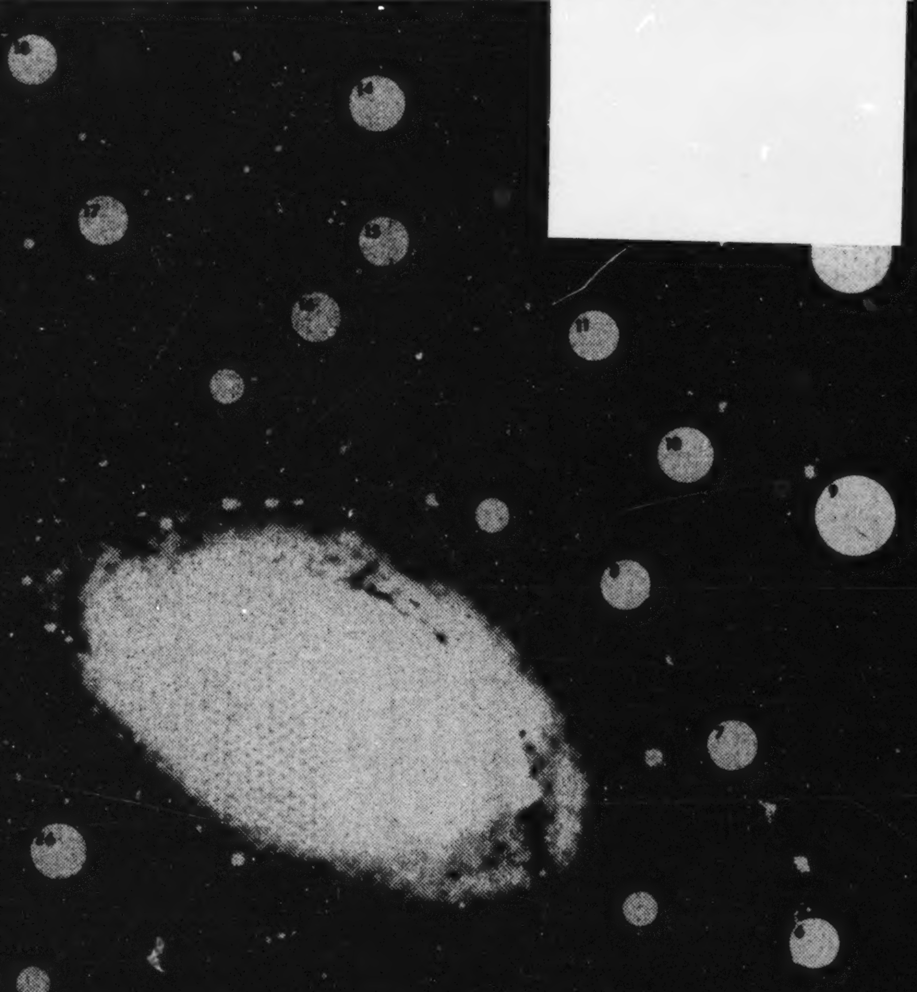

Galaxy of Problems

Galaxy of Problems

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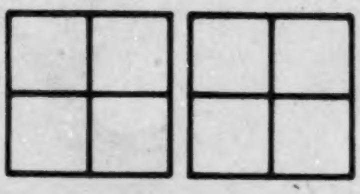
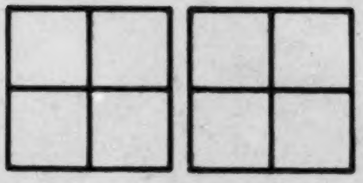
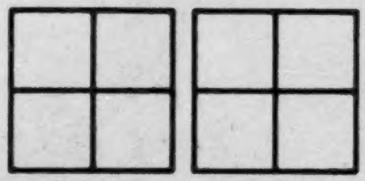
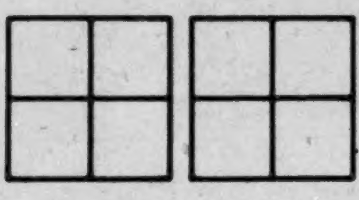
1

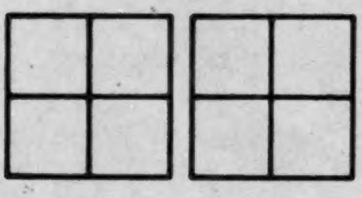
Put any numbers you wish on the Minicomputer using exactly three checkers for each.

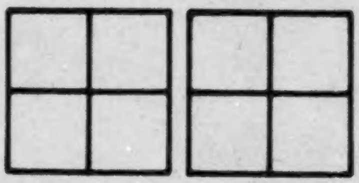

= ____

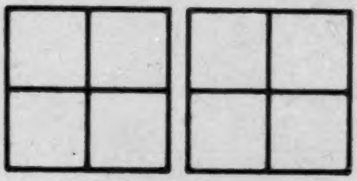

= ____

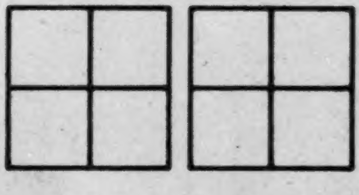

= ____

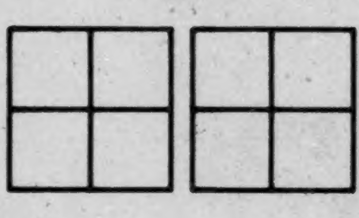

= ____

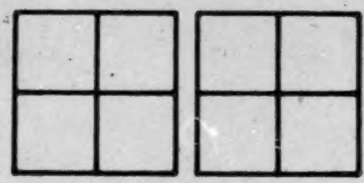

= ____


= ____


= ____

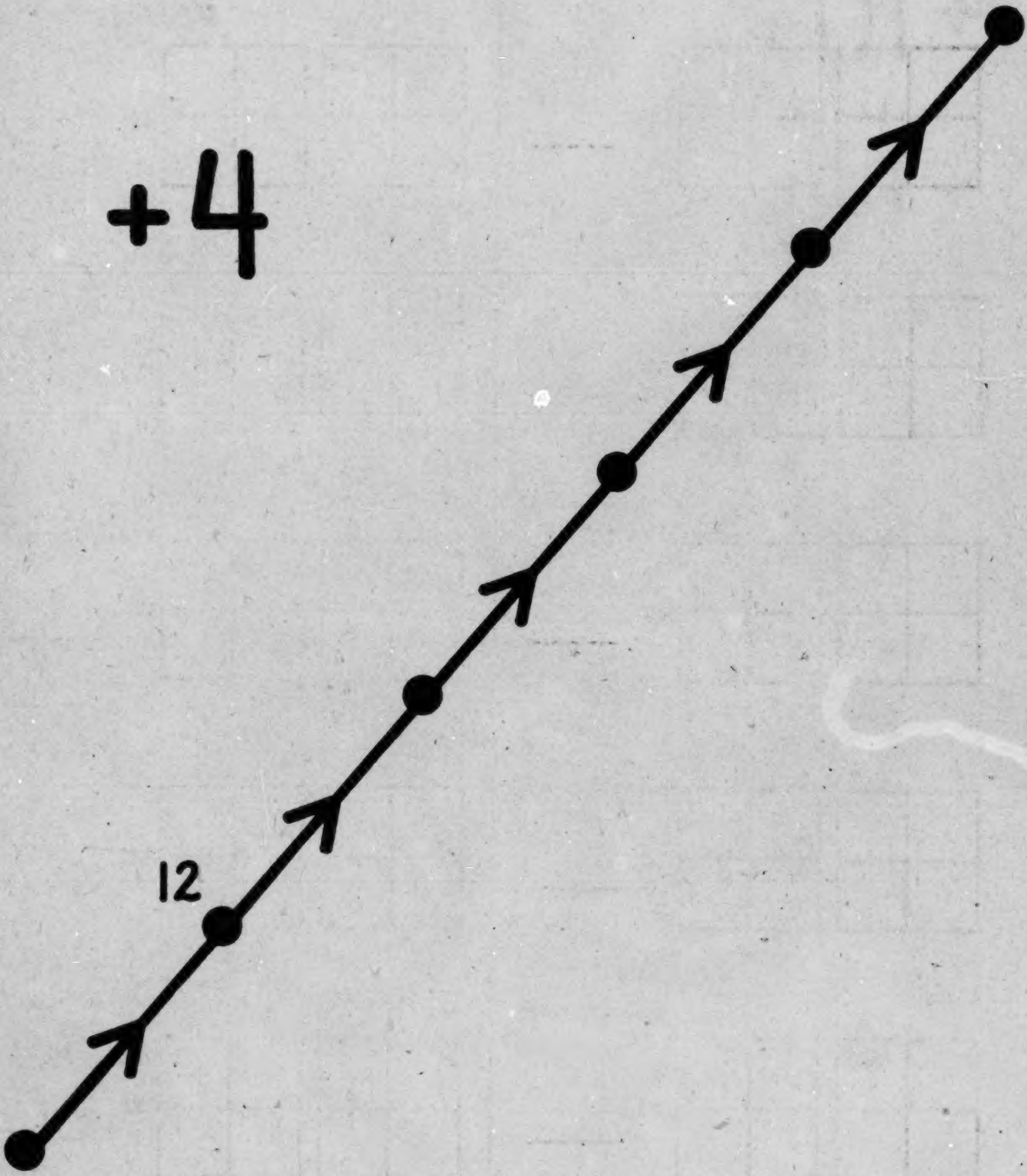

= ____


= ____


= ____

Label the dots.

Circle the largest number in this arrow picture.



MAY 1 6 1980

Build a blue-red road from 5 to 50.

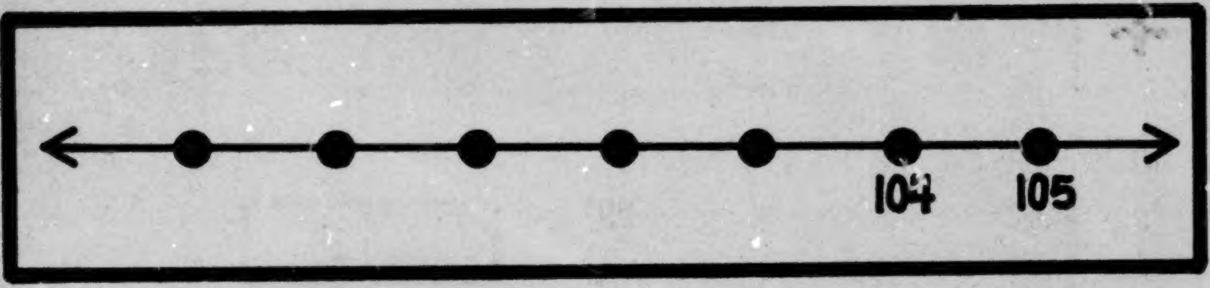
+10

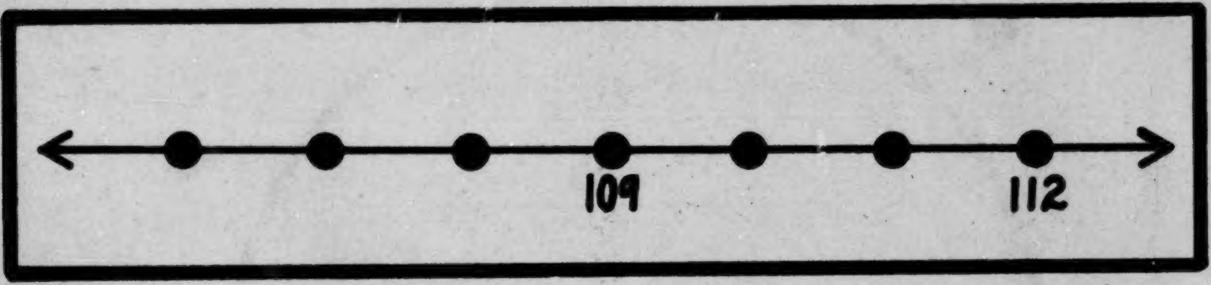
+1

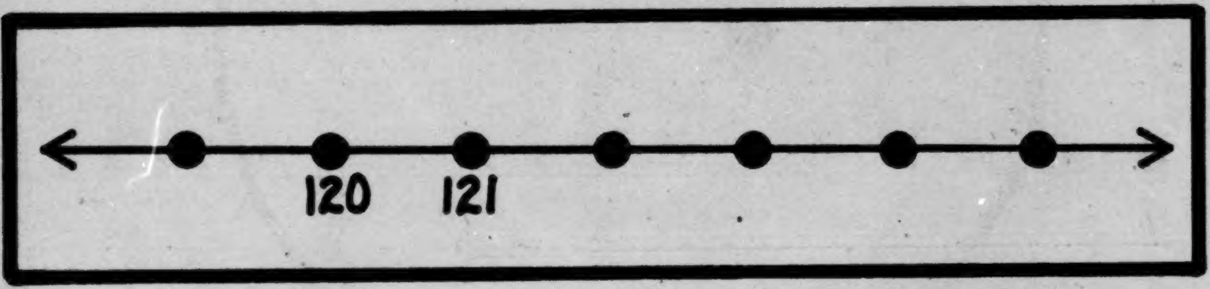
● 50

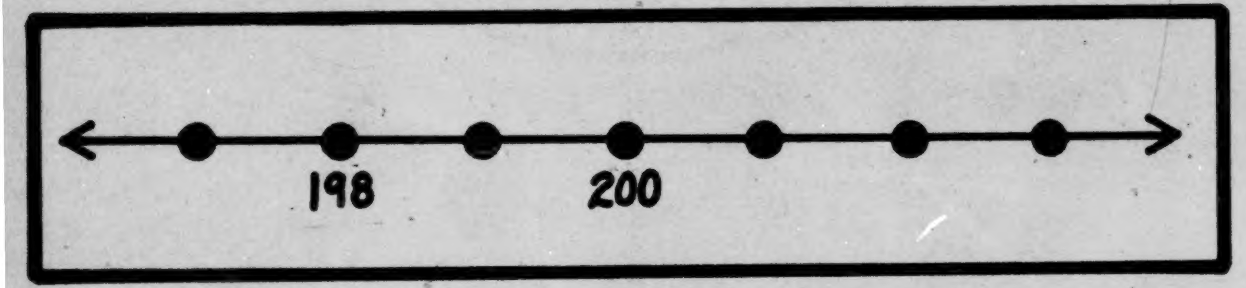
5 ●

Label the dots on these number lines.



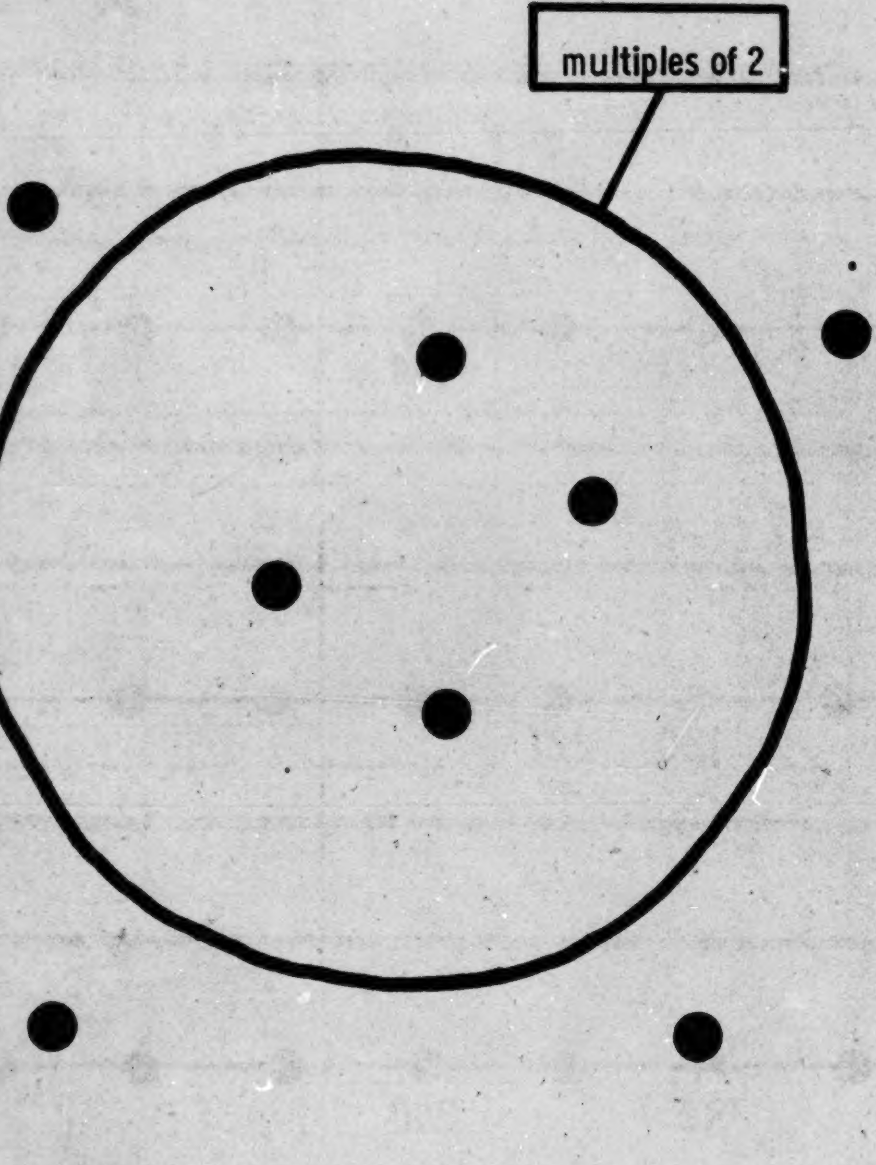






Label the dots in this string picture.

Many answers are possible.

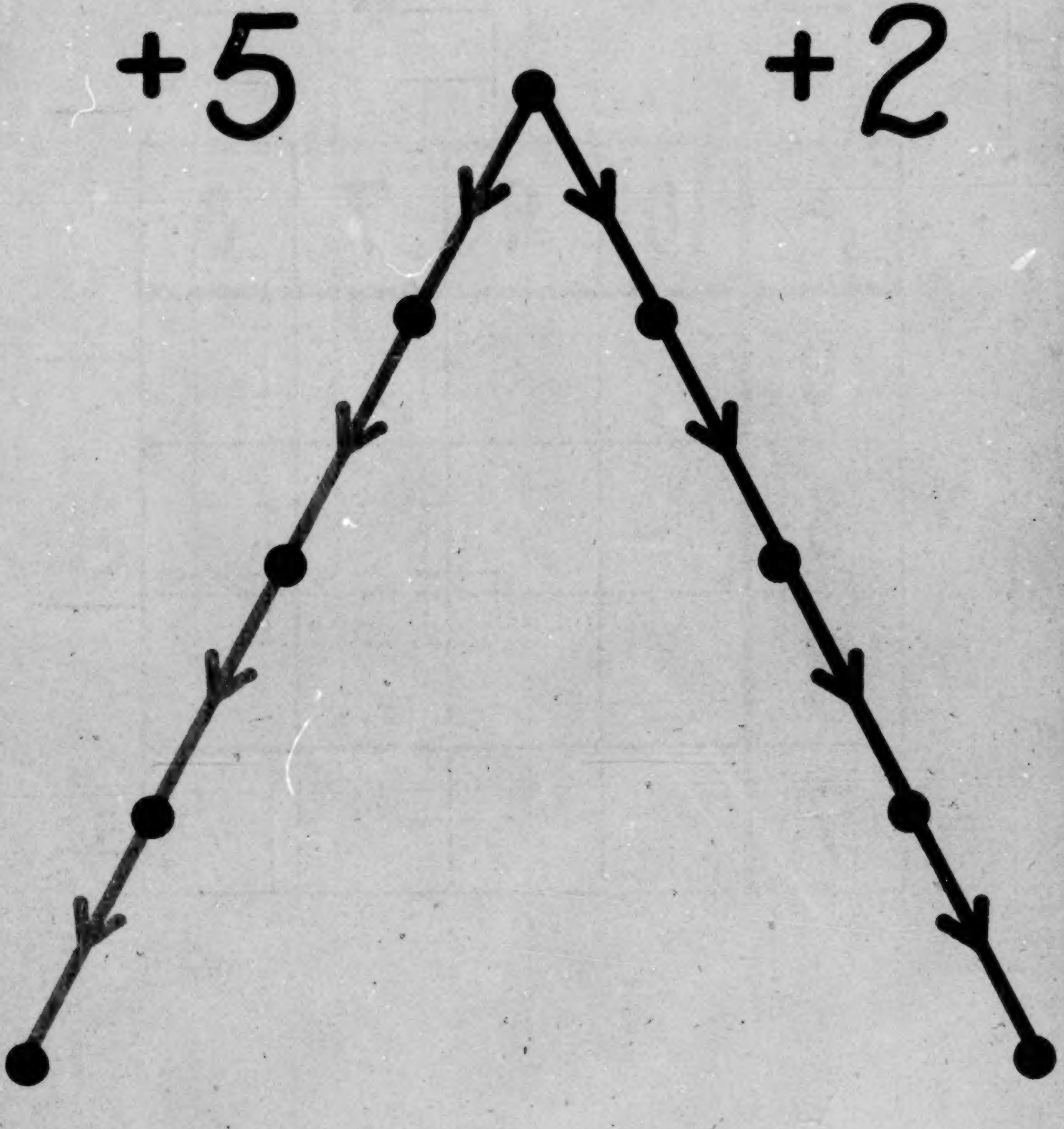

multiples of 2

Complete this addition table.

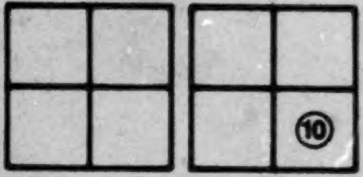
+	10	9	7	8
10				
8				
9				
7				

7 is the smallest number in this arrow picture.

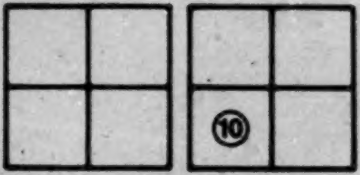
Label the dots.



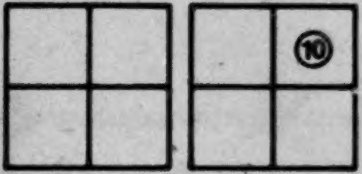
What number is on the Minicomputer?



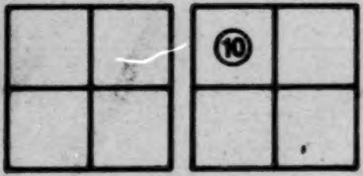
= ____



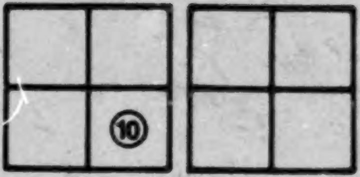
= ____



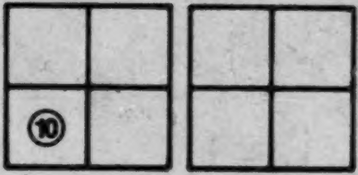
= ____



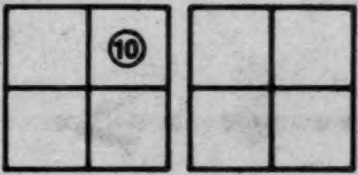
= ____



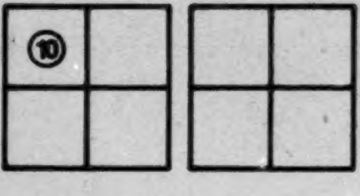
= ____



= ____



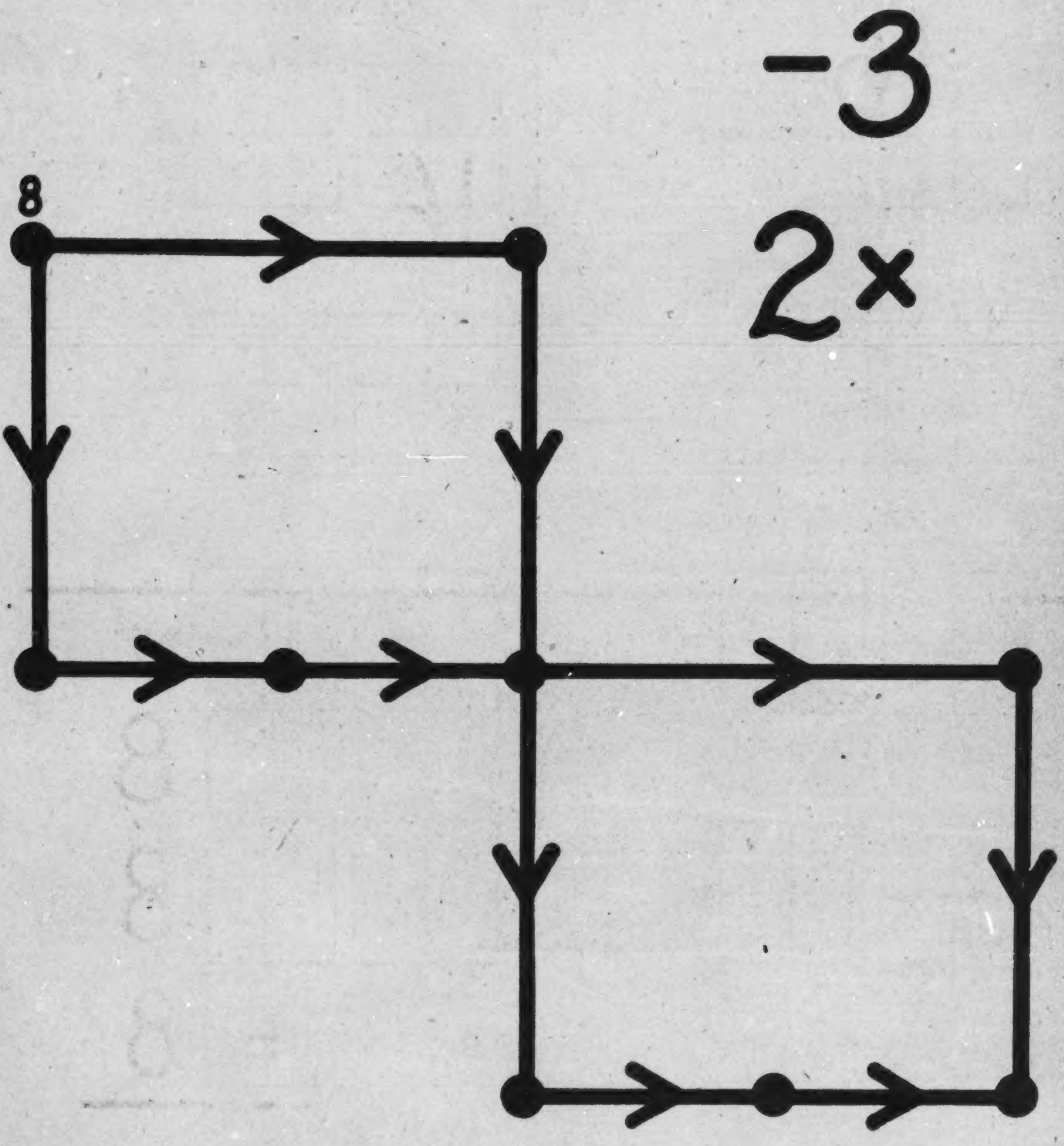
= ____



= ____

Label the dots.

Circle the largest number in this arrow picture.



Complete.

16
16
+ 16
______

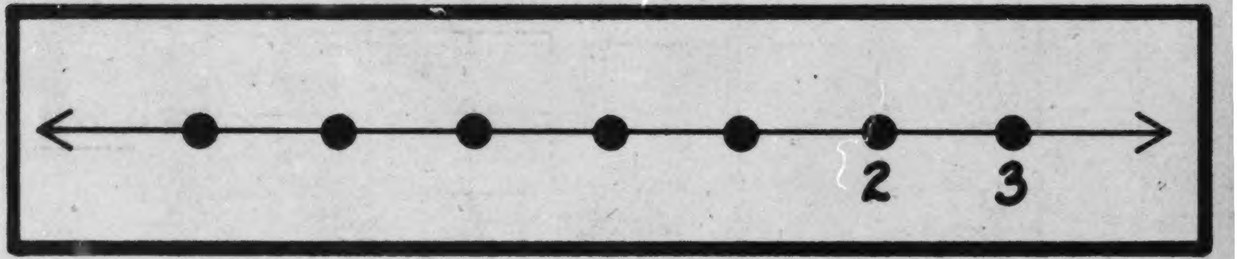
3 × 16 = ______

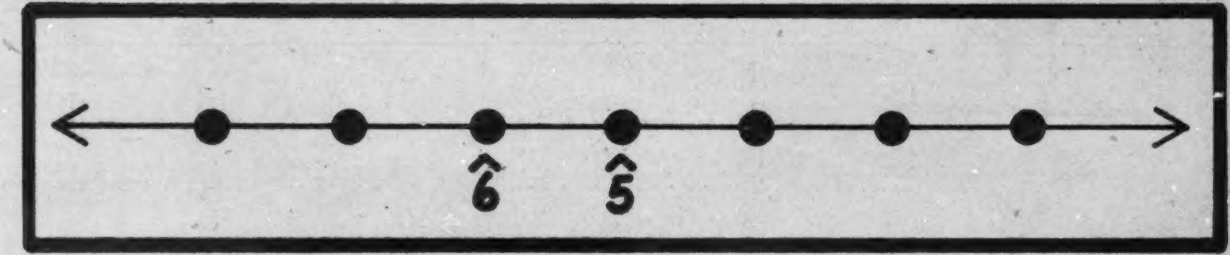
---

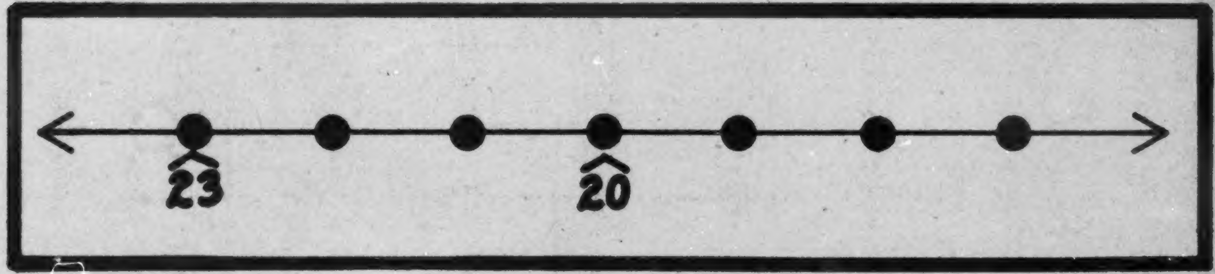
3 × 18 = ______

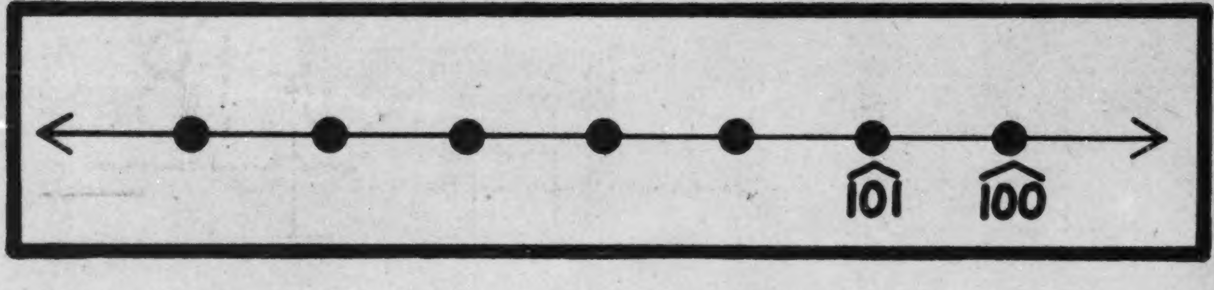
18
18
+ 18
______

Label the dots on these number lines.

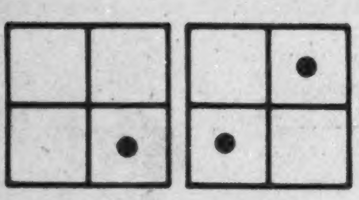


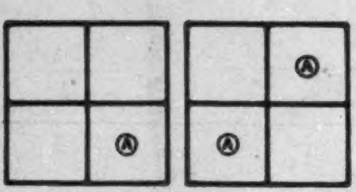


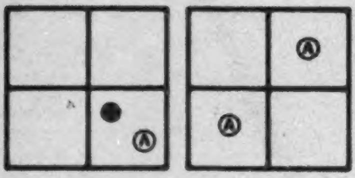


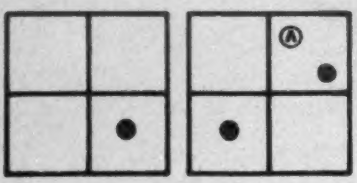


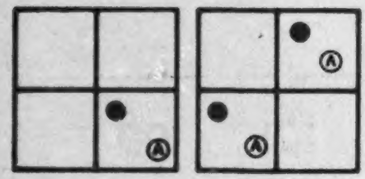
What number is on the Minicomputer?

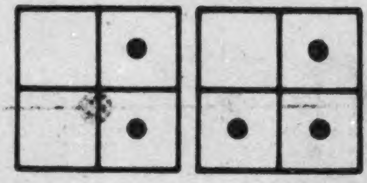

= ____

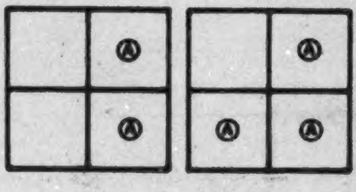

= ____

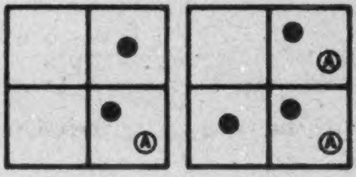

= ____

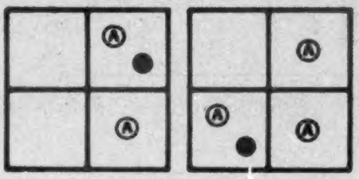

= ____

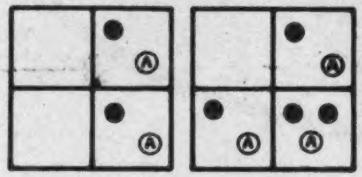

= ____


= ____


= ____


= ____


= ____


= ____

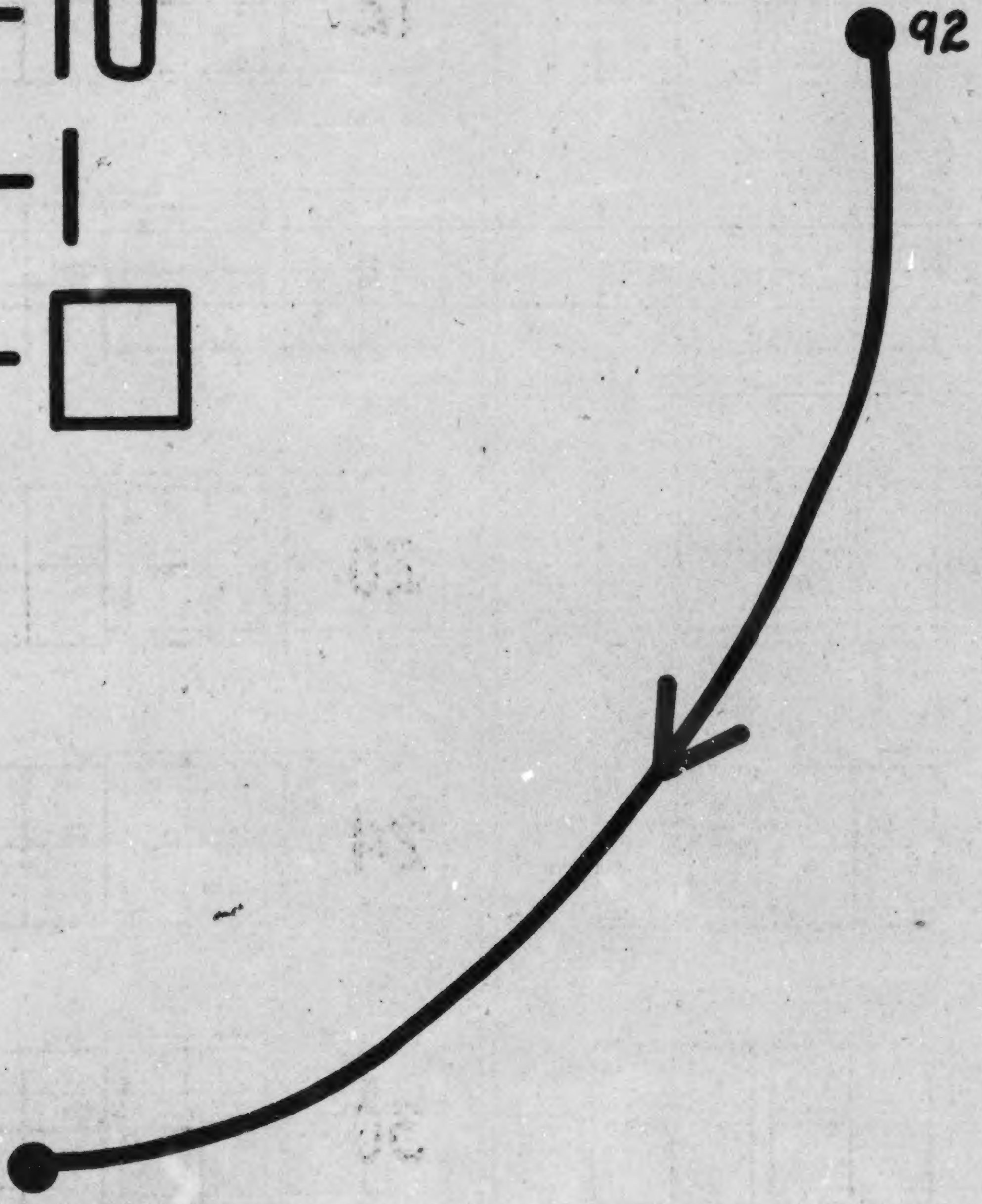
Build a blue-red road from 92 to 59.

Fill in the box for the green arrow.

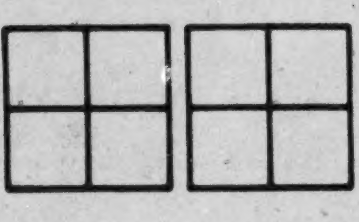
−10

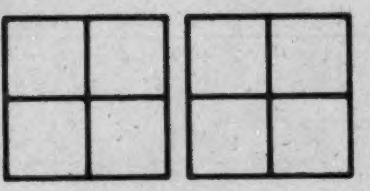
−1

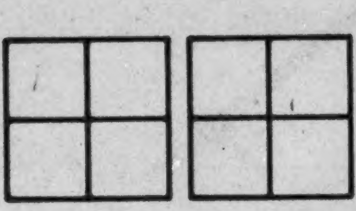
−☐

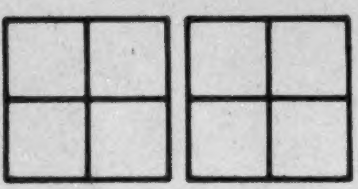


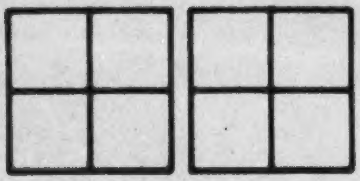
Put these numbers on the Minicomputer using exactly three checkers (positive or negative).

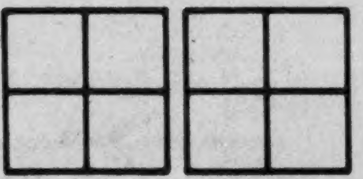
3 =


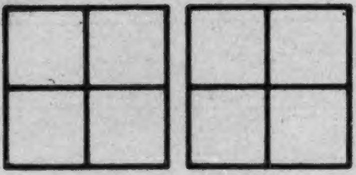
6 =


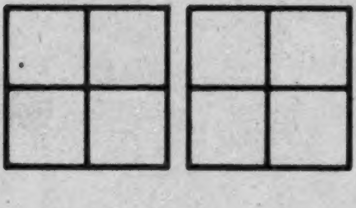
5 =


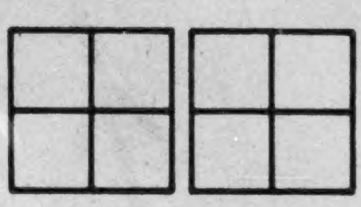
9 =


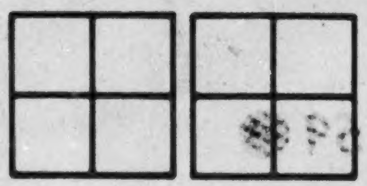
10 =


12 =


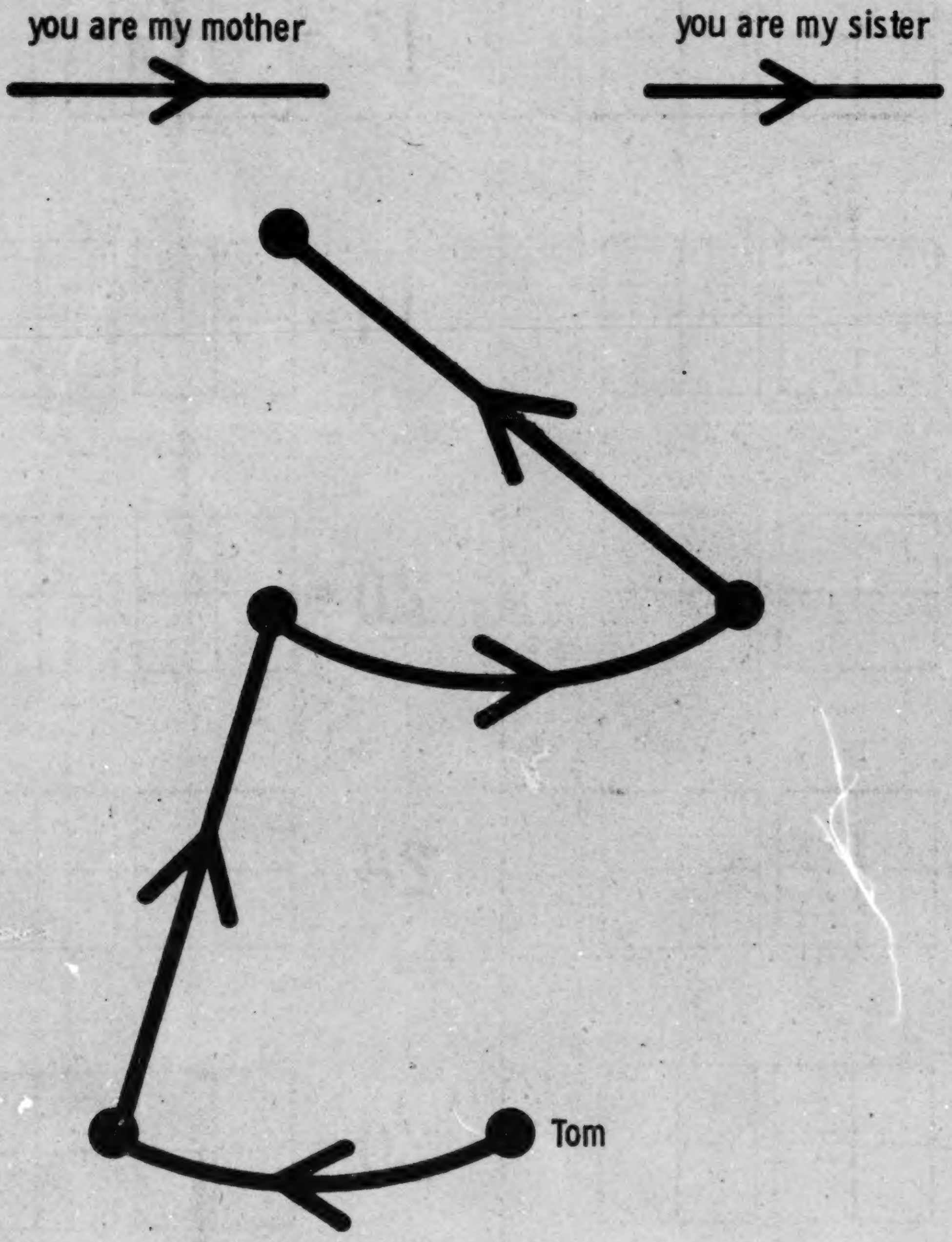
14 =


20 =


24 =


30 =


This picture shows some people in Tom's family. Draw the missing red and blue arrows.


you are my mother
you are my sister
Tom

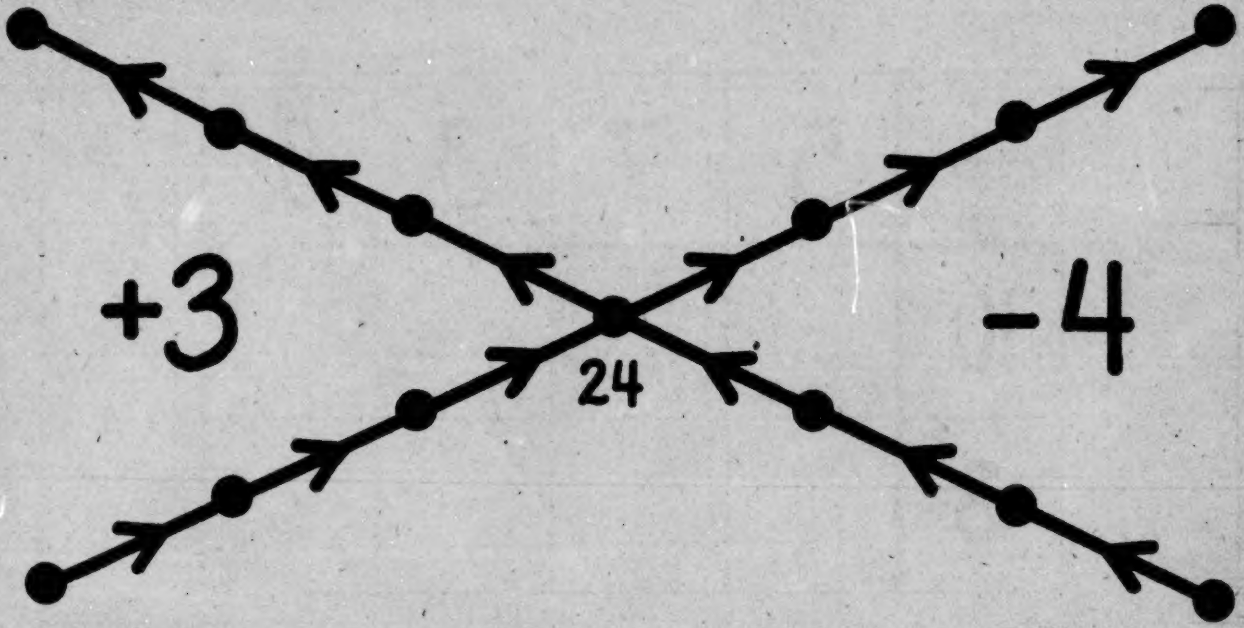
Complete these subtraction tables.

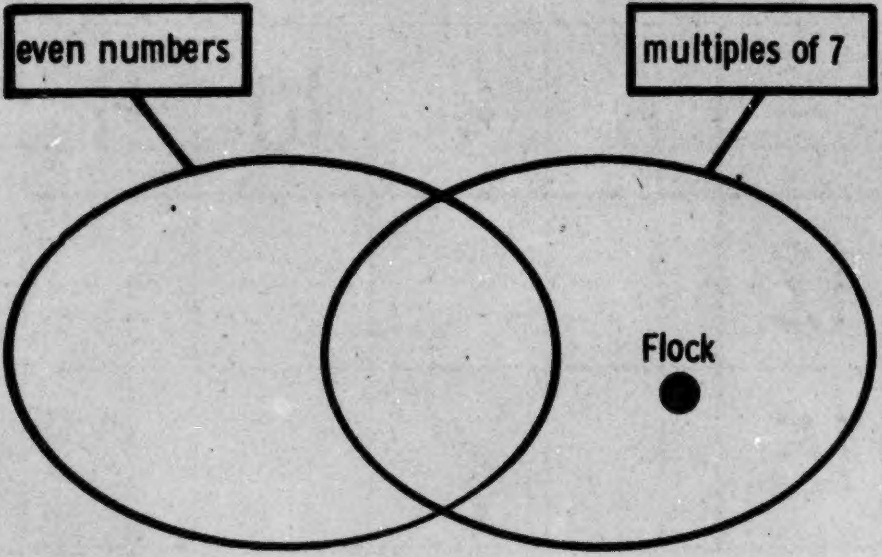
−	5	7	3	8
10				
8				

−	6	4	10	9
12				
15				

Flock is a secret number.

Flock is in this arrow picture and in this string picture.



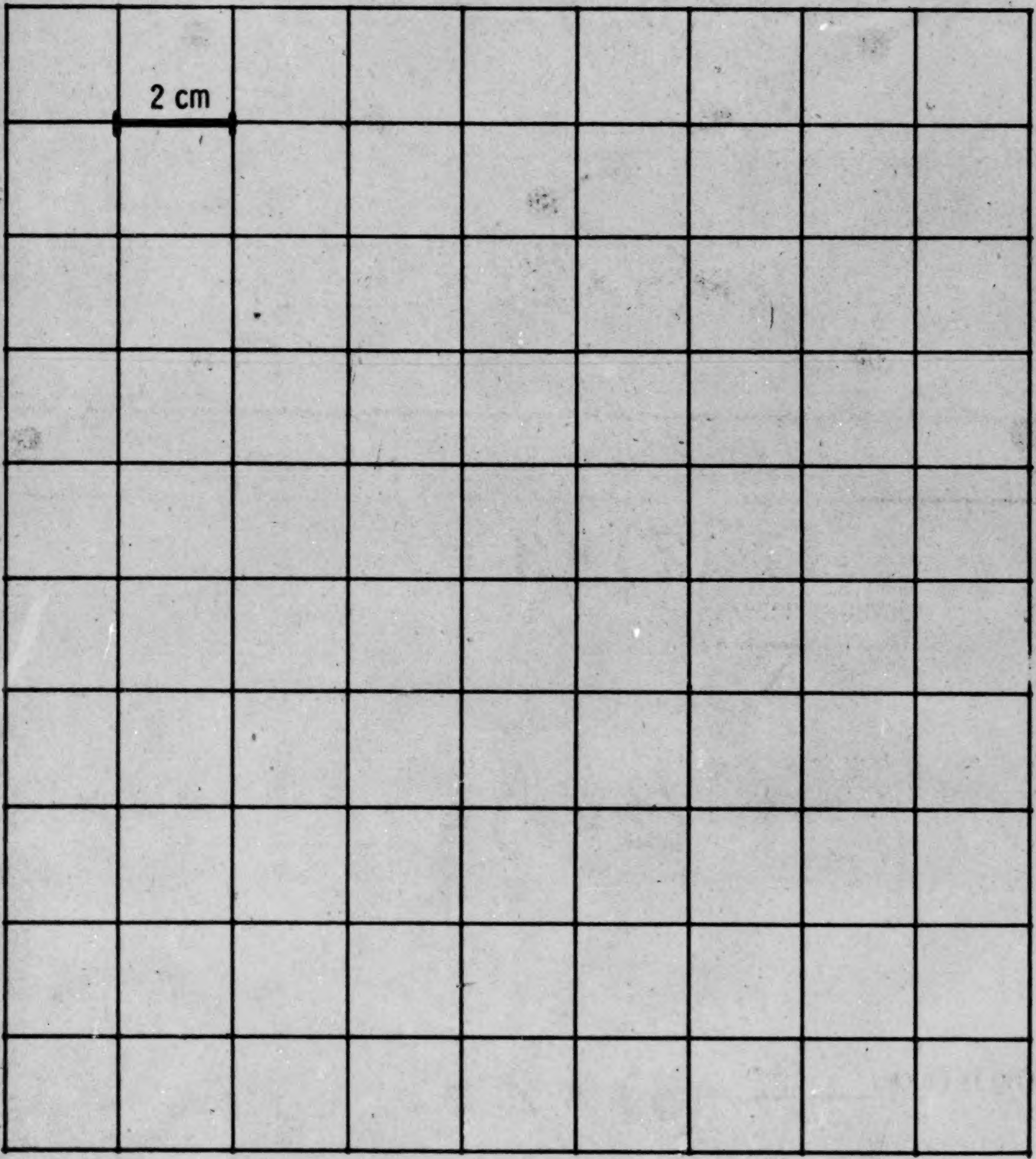

even numbers
multiples of 7
Flock

Who is Flock? ________

Draw a red zigzag path which is 18 cm long.

Draw a blue zigzag path which is 7 cm long.

Draw a green zigzag path which is 21 cm long.



Complete these number stories.

$(6 + 5) \times 2 = \underline{\qquad}$

$6 + (5 \times 2) = \underline{\qquad}$

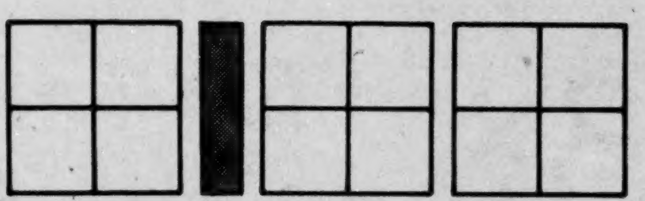
$(7 - 2) \times 3 = \underline{\qquad}$

$7 - (2 \times 3) = \underline{\qquad}$

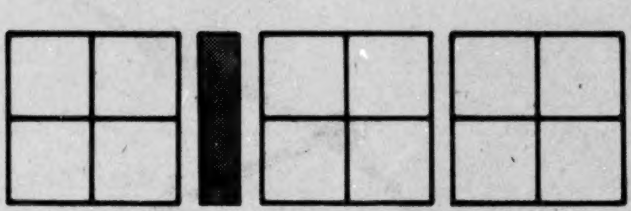
$(7 - 3) \times 2 = \underline{\qquad}$

Put these numbers on the Minicomputer.

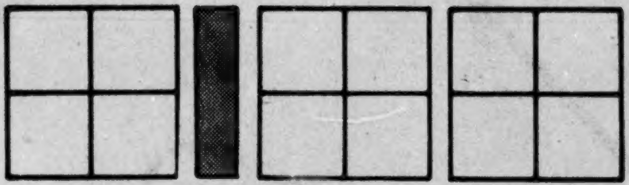
4.05 =



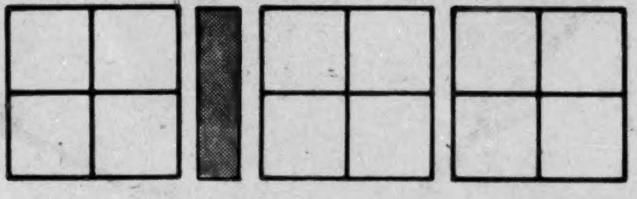
8.60 =



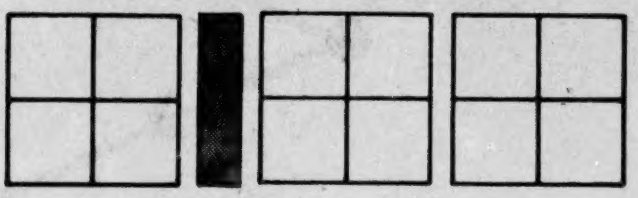
0.79 =



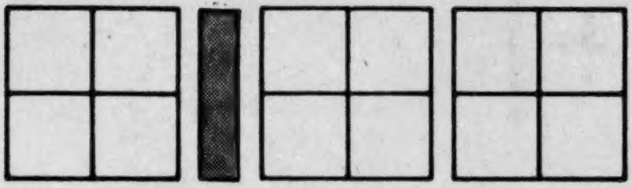
3.00 =



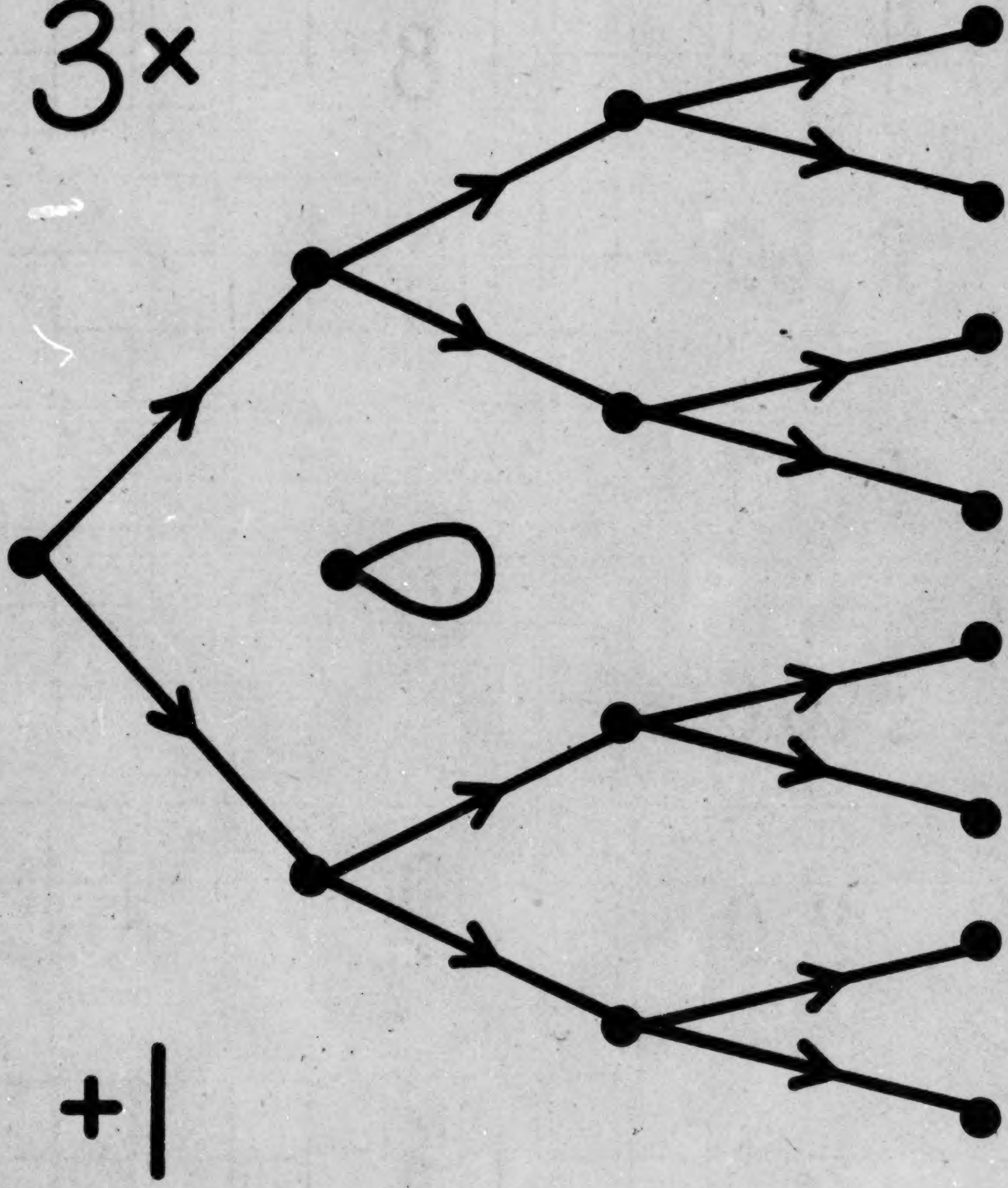
2.0 =



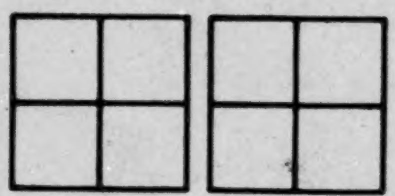
1.4 =

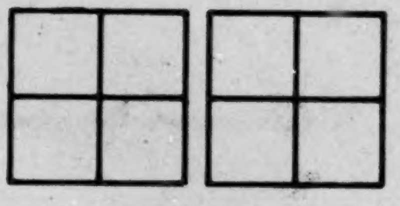


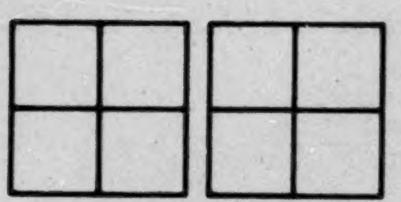
Label the dots.

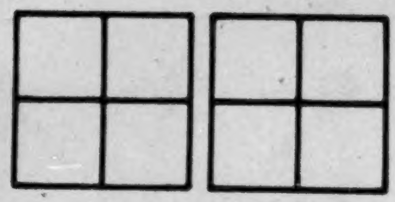


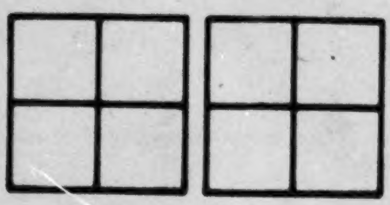
Put these numbers on the Minicomputer using exactly one regular checker and one negative checker.

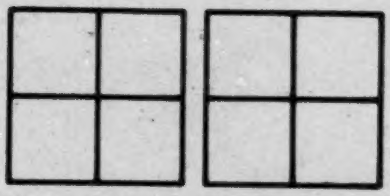
$0 =$ 

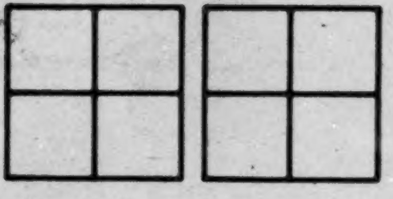
$1 =$ 

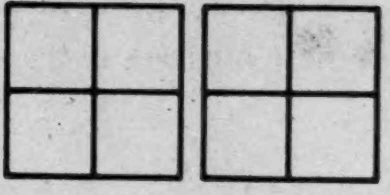
$\hat{1} =$ 

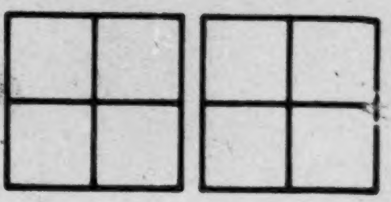
$2 =$ 

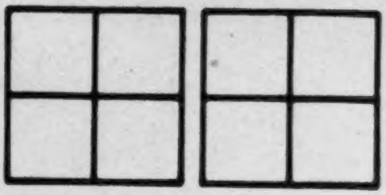
$\hat{2} =$ 

$8 =$ 

$\hat{8} =$ 

$10 =$ 

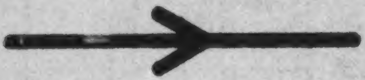
$\widehat{10} =$ 

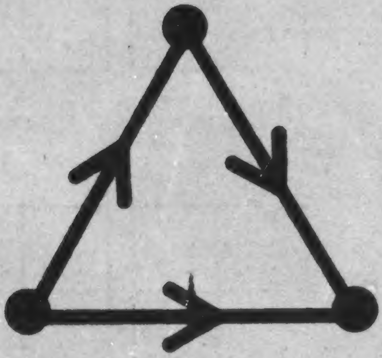
$6 =$ 

Put these numbers in the arrow picture.

225 252 522

I am more than you

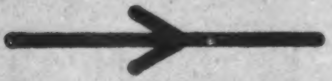


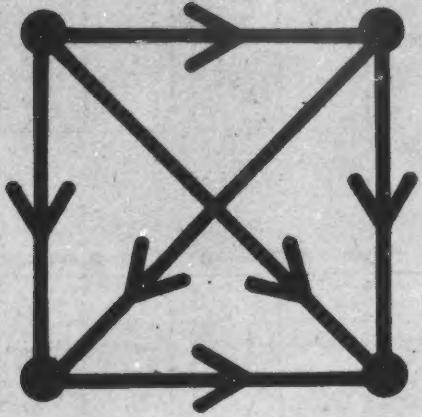


Put these numbers in the arrow picture.

390 930 309 903

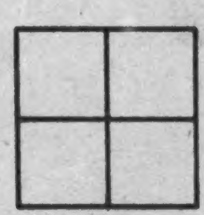
I am less than you





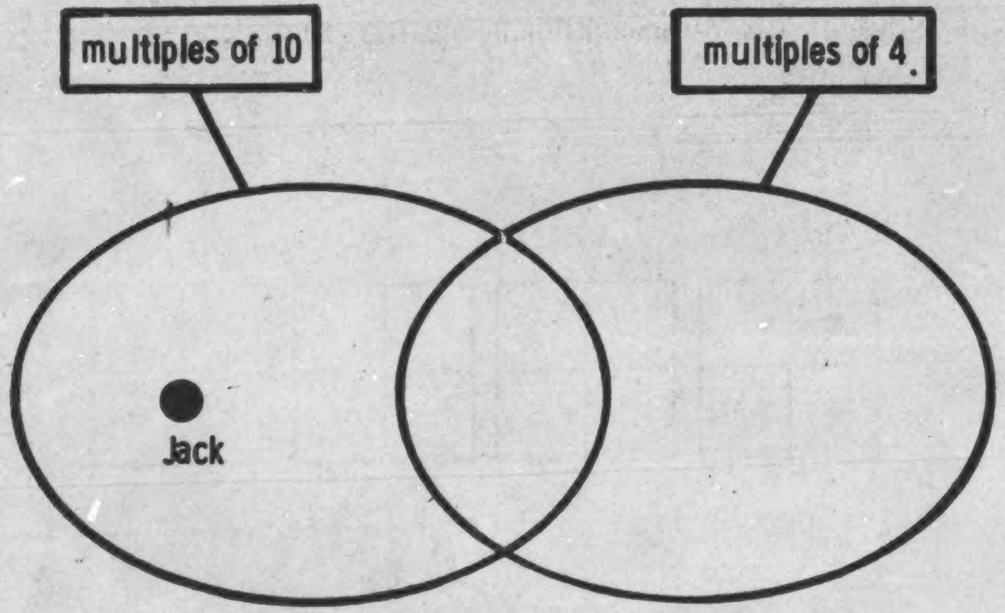
ack is a secret number.

Jack can be put on this Minicomputer with five regular checkers on the same square.



Jack could be _________, _________, _________, or _________.

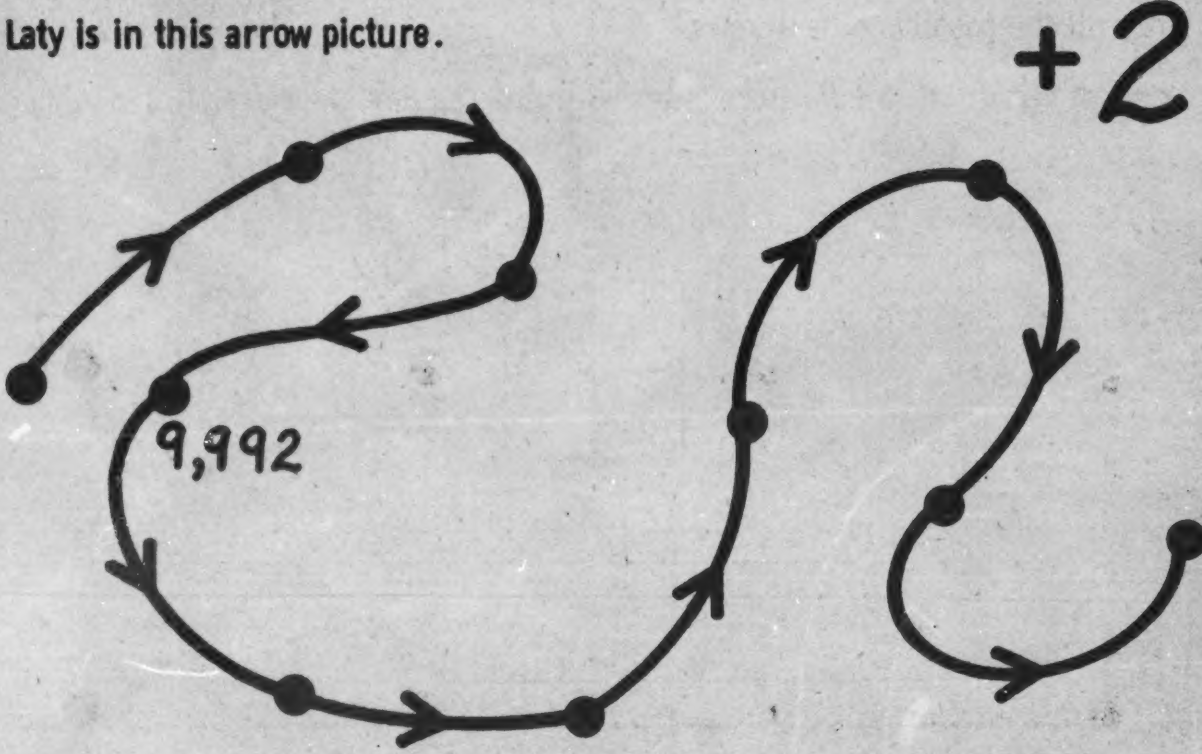
Jack is in this string picture.


multiples of 10
multiples of 4
Jack

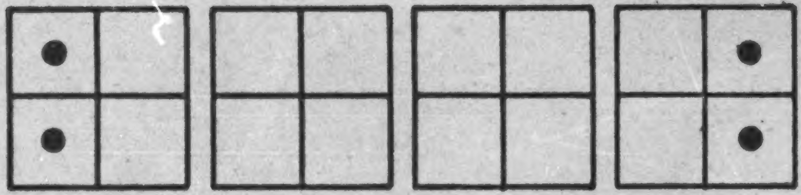
Who is Jack? __________

Laty is a secret number.

Laty is in this arrow picture.



Laty can be put on this Minicomputer by moving exactly one checker.

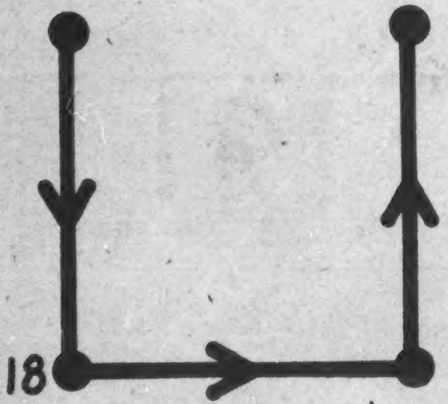


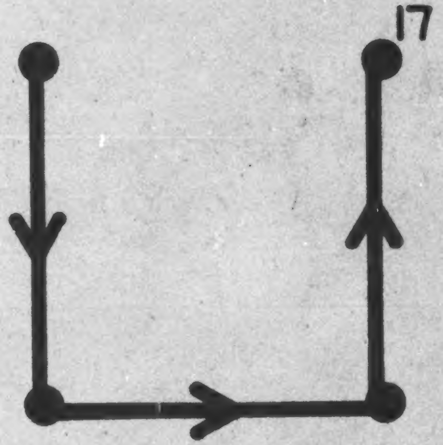
Who is Laty?__________

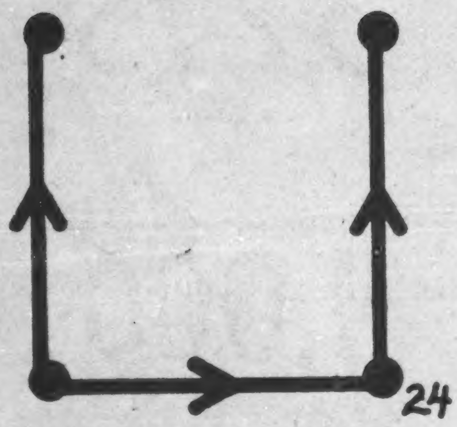
Label the dots.

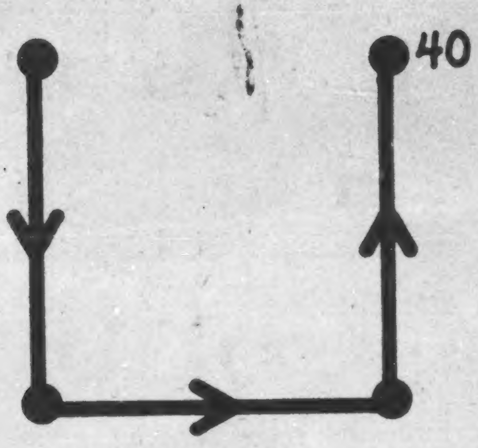
Draw all the possible blue arrows.

2x   +1   4x









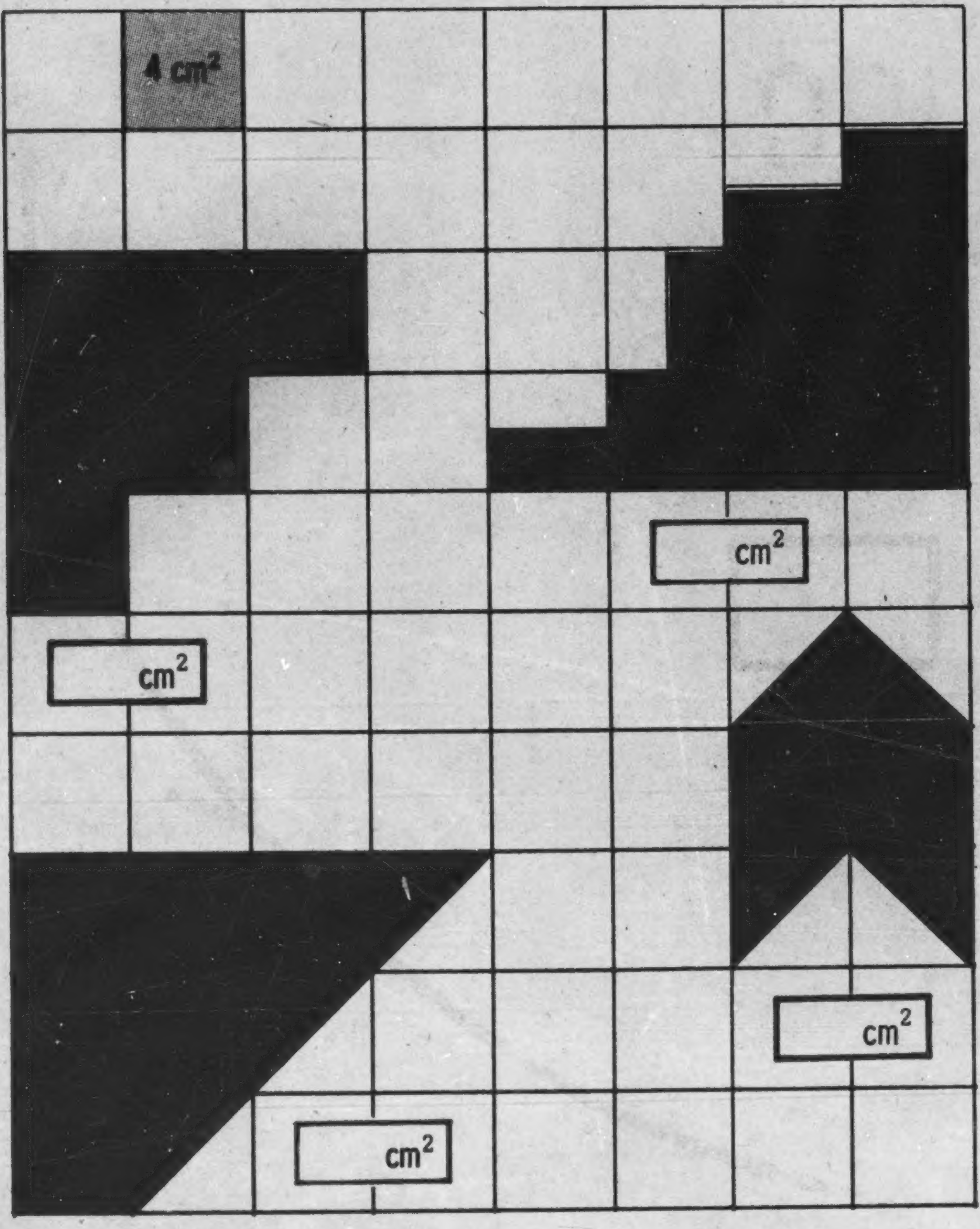
You should have four blue arrows.

Complete.

$$\begin{array}{r} 27 \\ + \\ \hline 60 \end{array} \qquad \begin{array}{r} 154 \\ + \\ \hline 191 \end{array}$$

$$\begin{array}{r} 408 \\ + \\ \hline 600 \end{array} \qquad \begin{array}{r} 3{,}275 \\ + \\ \hline 4{,}000 \end{array}$$

Find the area of each shape.


4 cm²
cm²
cm²
cm²
cm²

Build a black-blue-red road from 251 to 28.

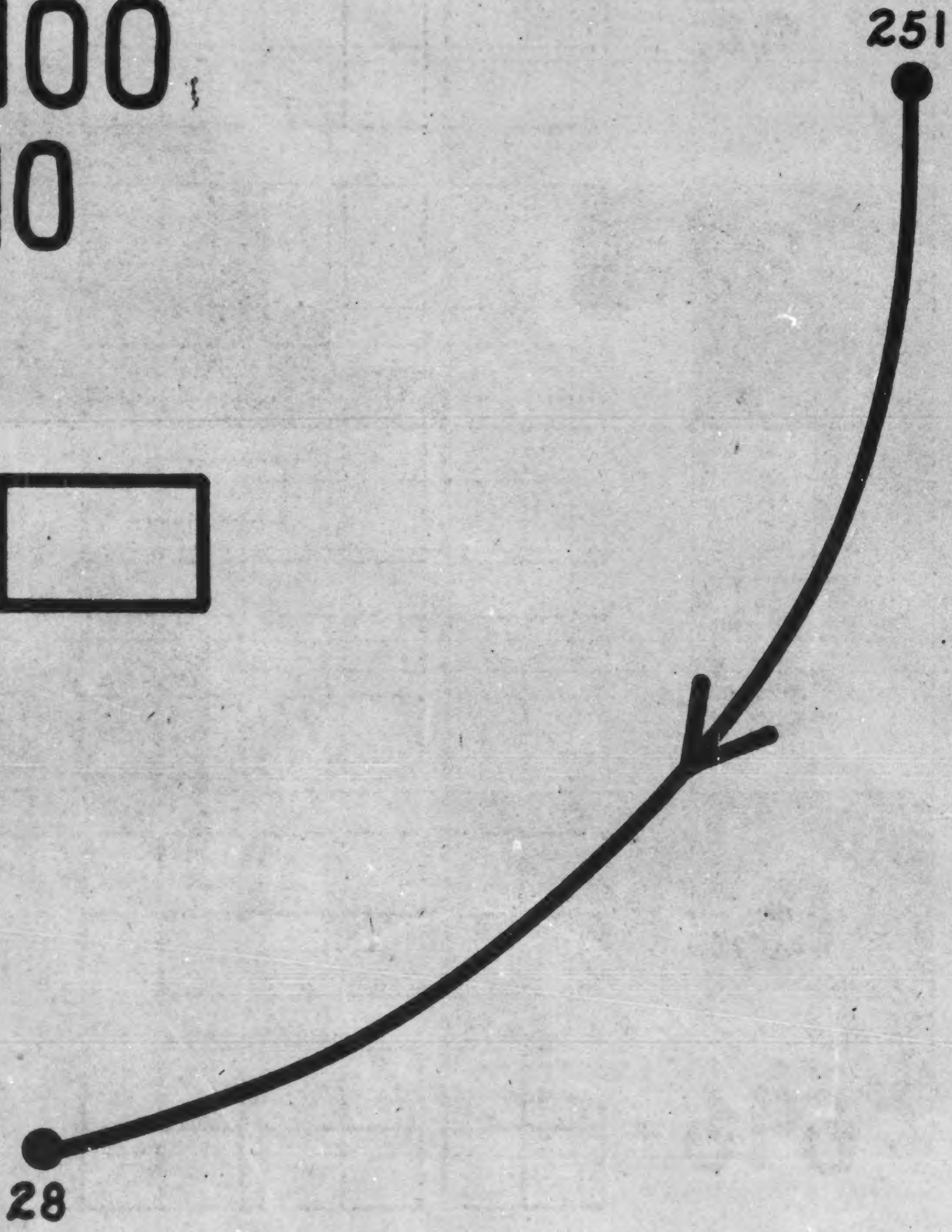
Fill in the box for the green arrow.

-100

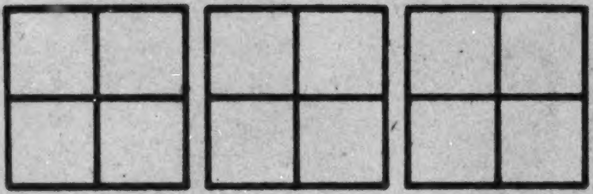
-10

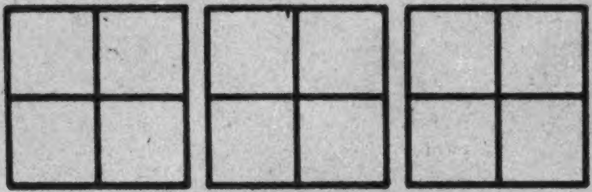
-1

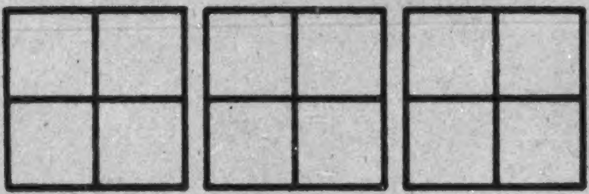
-☐

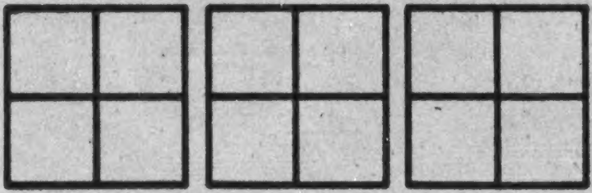


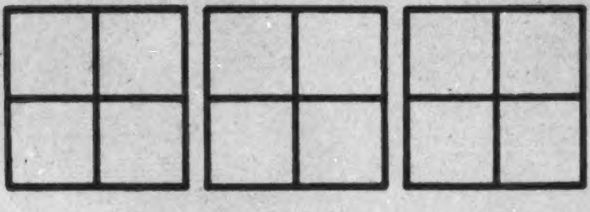
Put these numbers on the Minicomputer using exactly three checkers (positive or negative).

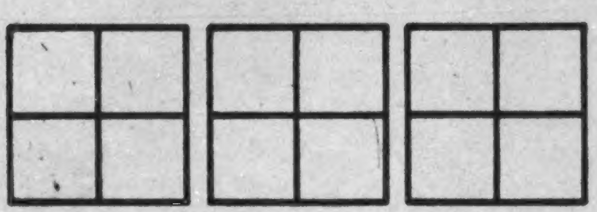
35 =


97 =


$\widehat{17}$ =


56 =


132 =


696 =


Build a red-blue road from 0 to 312.

0
●

+1

10×

● 312

241

Name

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3 44501

18
14
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24
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28
26
27
6
5
31
30
4
32
2
3

Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems

2

Build a red-blue-green road from 0 to 123.

+100

+10

+1

● 123

0 ●

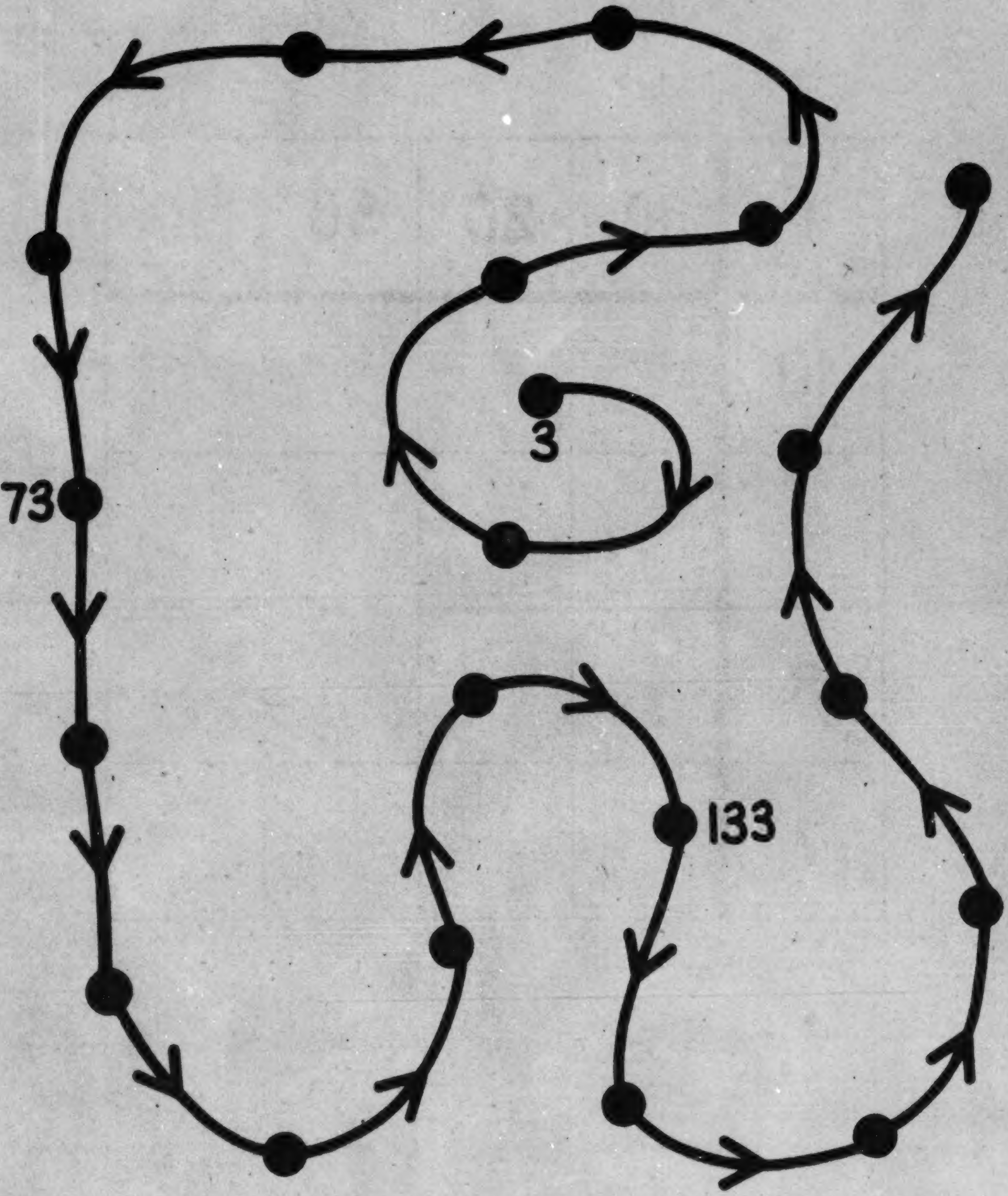
Complete this addition table.

+	10	20	30	40
10				
9				
8				
7				

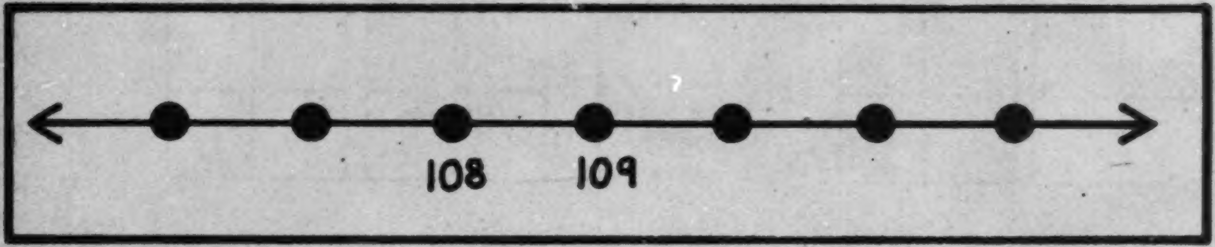
MAY 1 6 1980

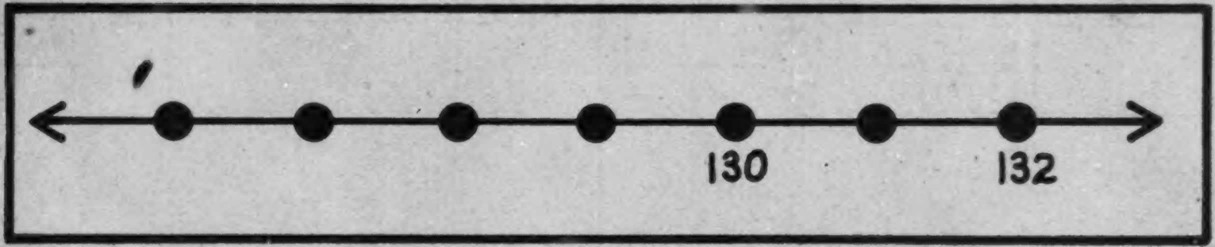
Label the dots.

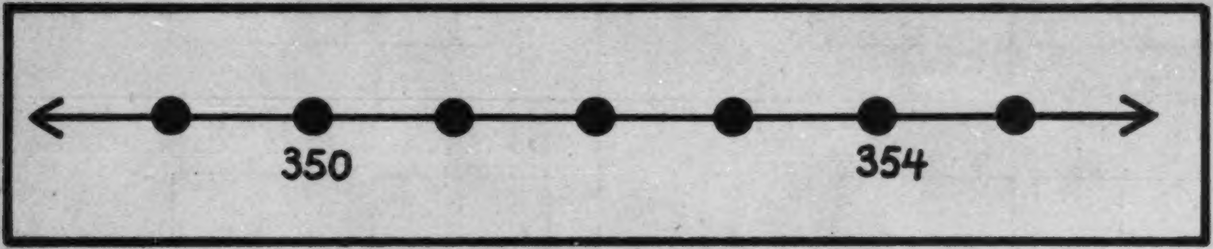
+10

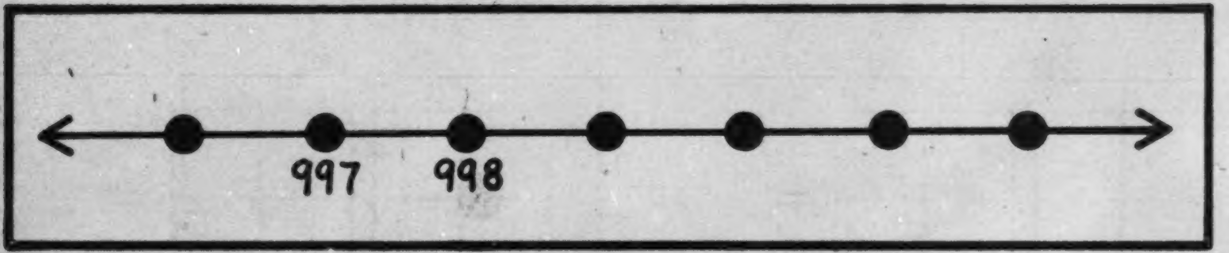


Label the dots on these number lines.

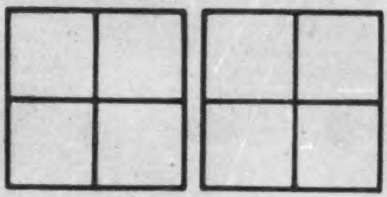


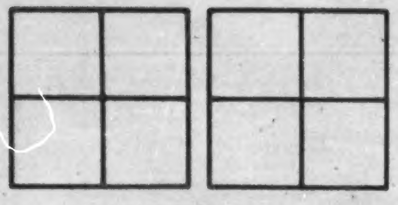


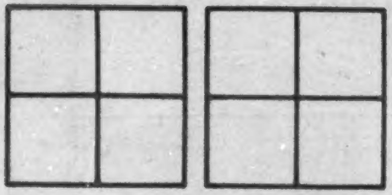


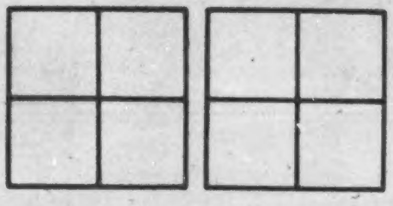


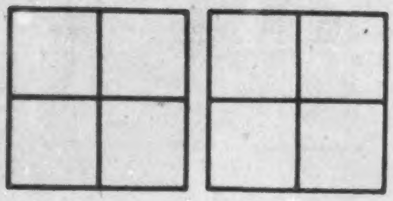
Put any numbers you wish on the Minicomputer using exactly four checkers for each.

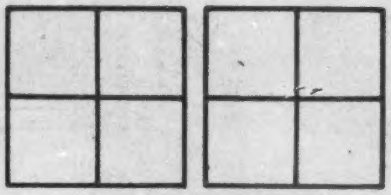

= ______

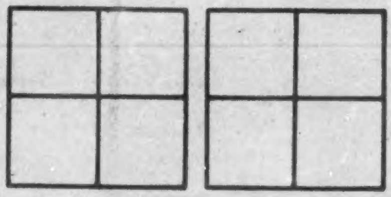

= ______

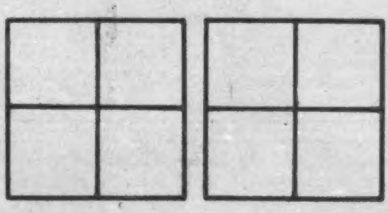

= ______

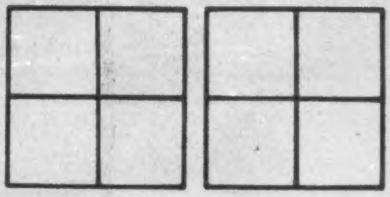

= ______

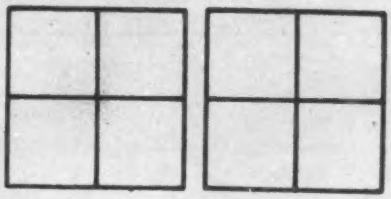

= ______


= ______


= ______

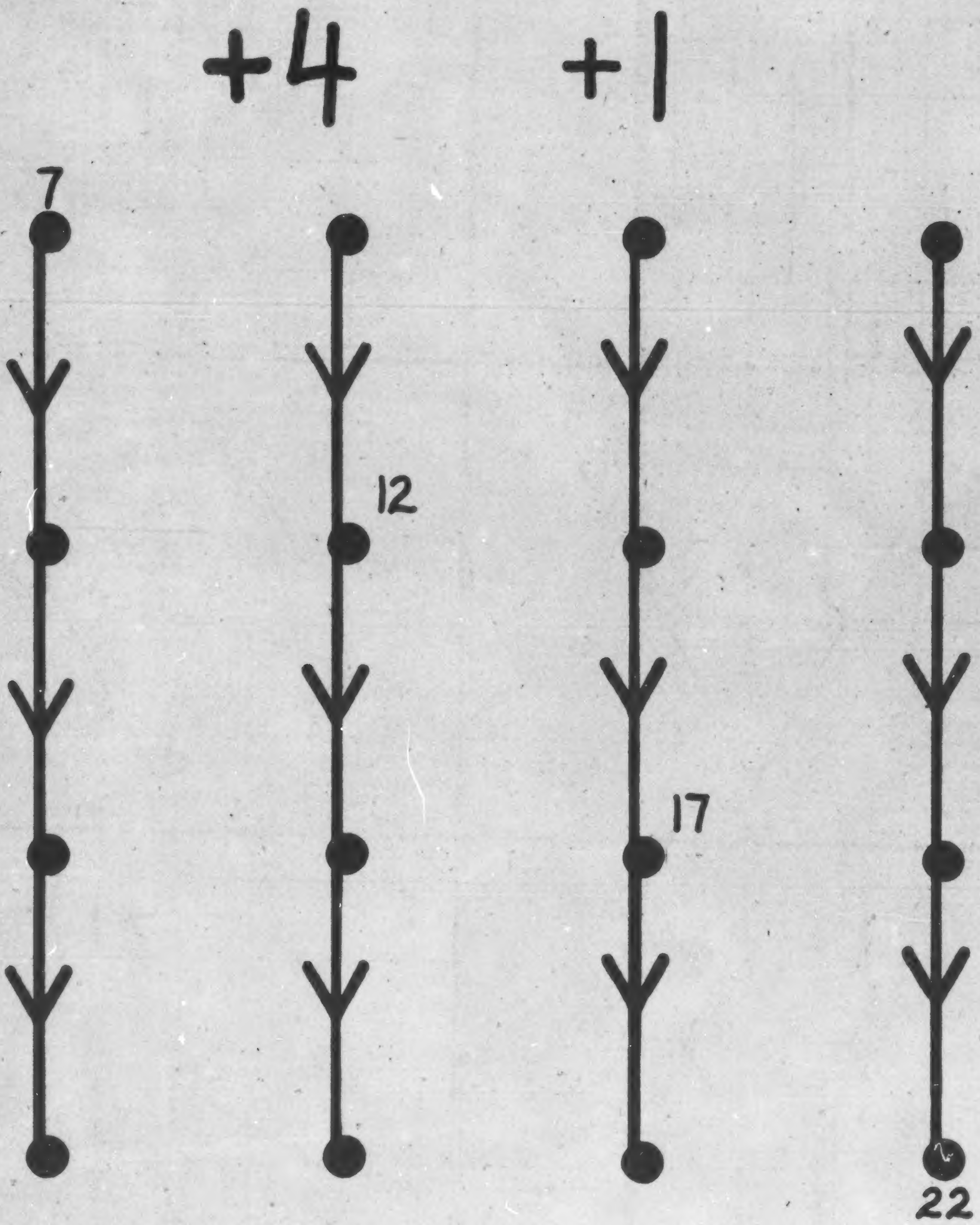

= ______


= ______

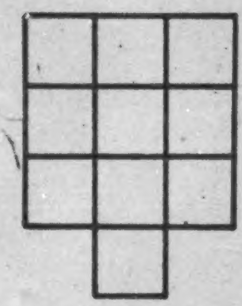

= ______

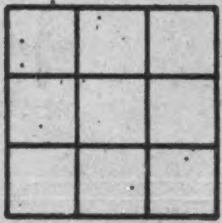
Label the dots.

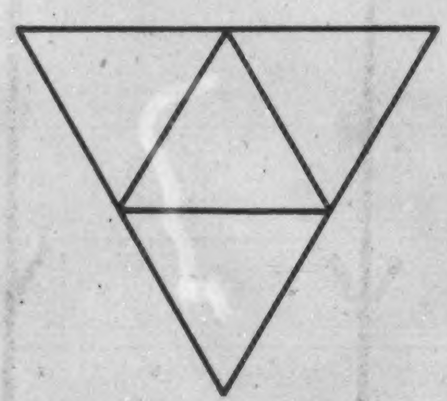
Draw all the missing blue arrows.

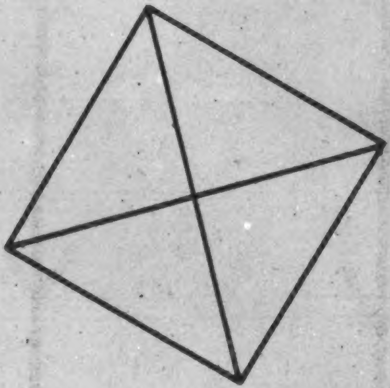


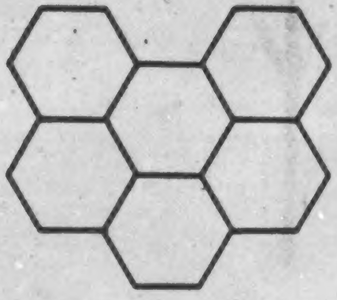
Color one-half of each shape red.

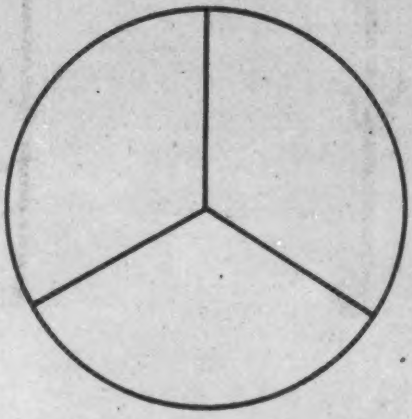






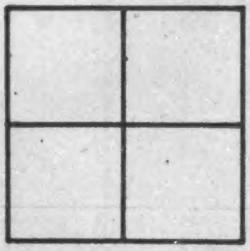




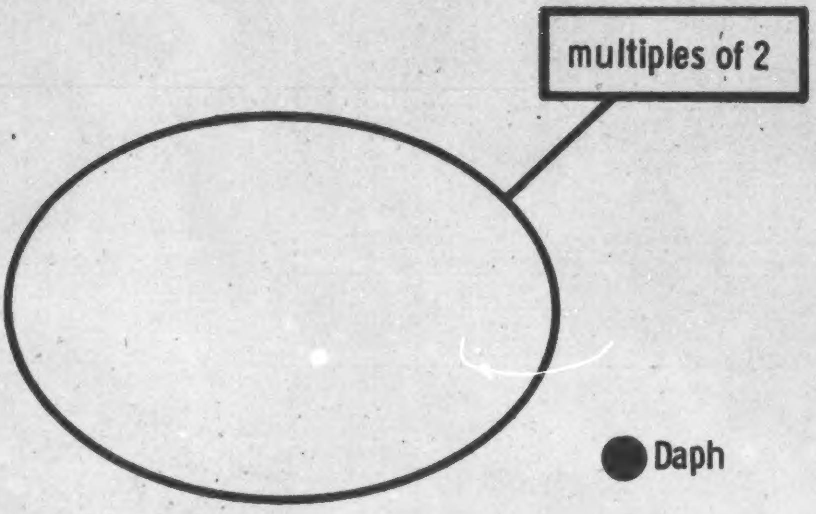


Daph is a secret number.

Daph can be put on this Minicomputer with three regular checkers on the same square.

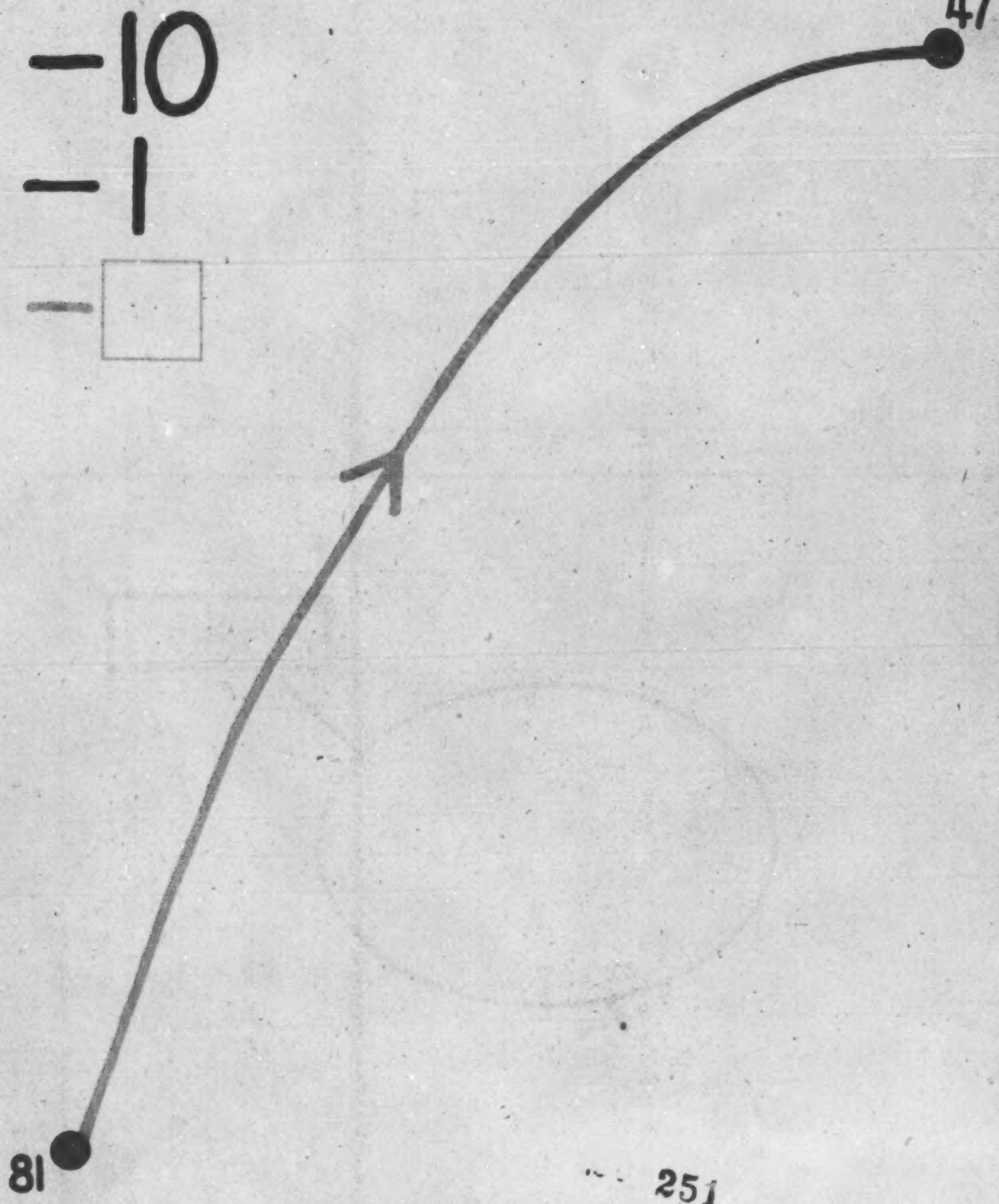


Daph could be ________, ________, ________, or ________.


multiples of 2
● Daph

Who is Daph? __________

Build a red-blue road from 81 to 47.
Fill in the box for the green arrow.



Build a red-blue road from 0 to 32.

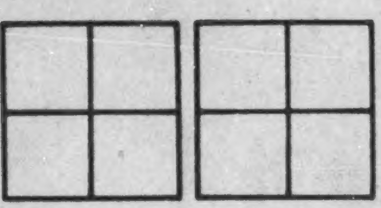
0 ●

10 ×

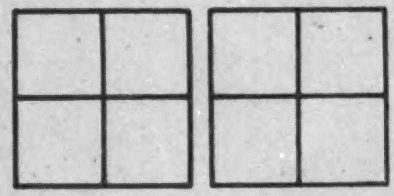
+1

● 32

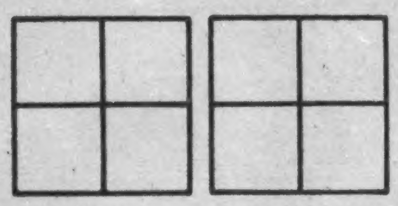
Put any numbers you wish on the Minicomputer using exactly one regular checker and one negative checker for each.



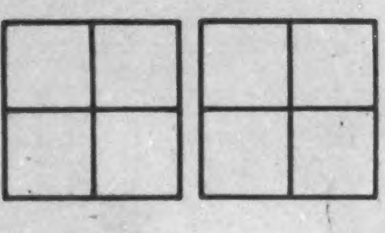
= ____



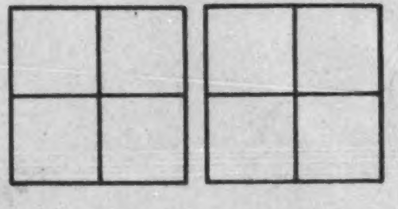
= ____



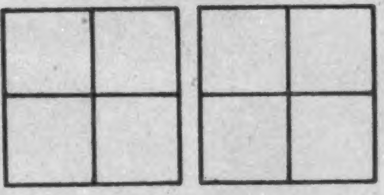
= ____



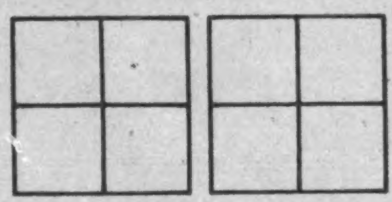
= ____



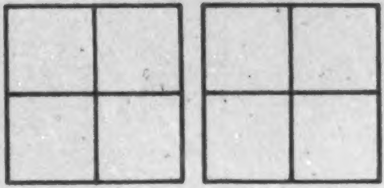
= ____



= ____



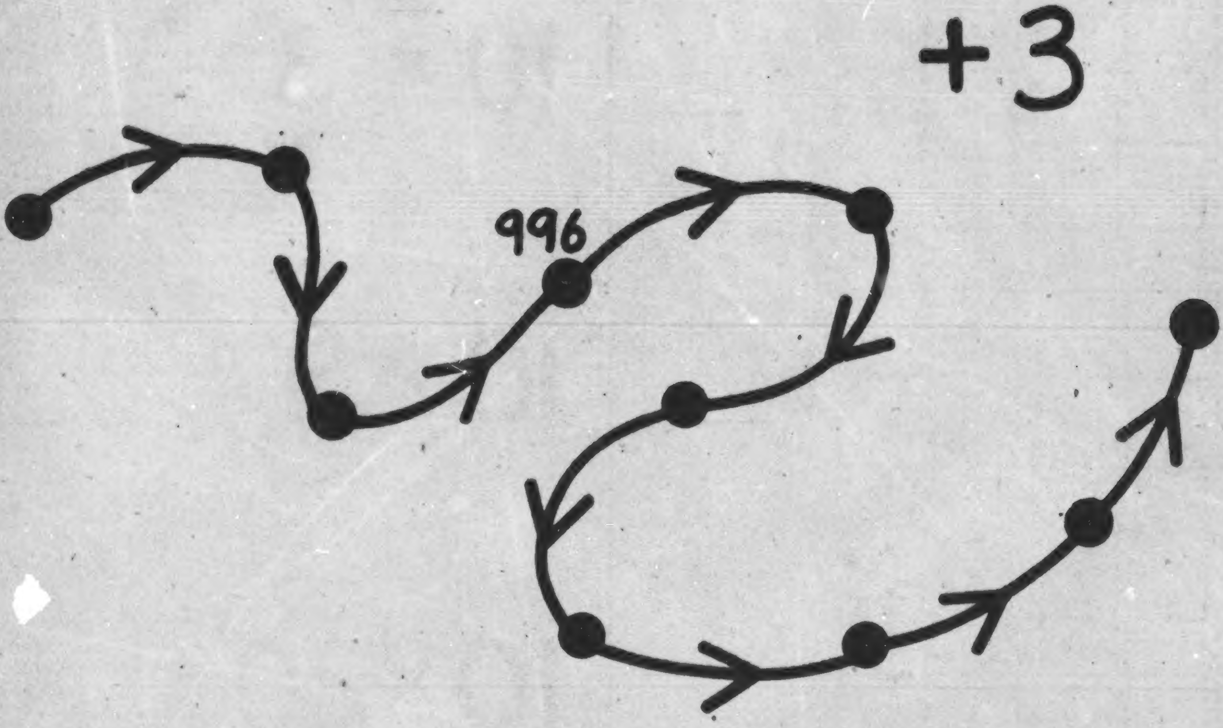
= ____



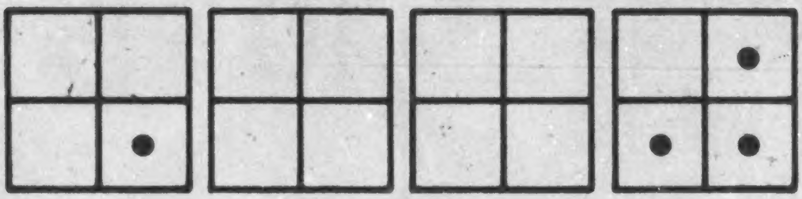
= ____

Ling is a secret number.

Ling is in this arrow picture.

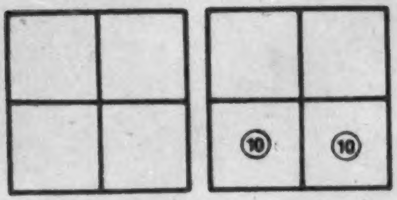


Ling can be put on this Minicomputer by taking off exactly one checker.

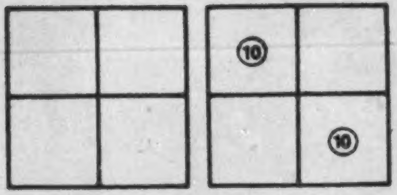


Who is Ling?__________

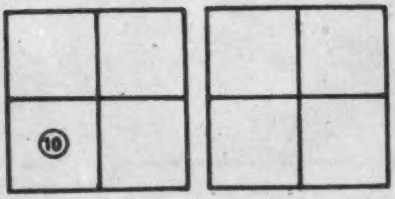
Complete.



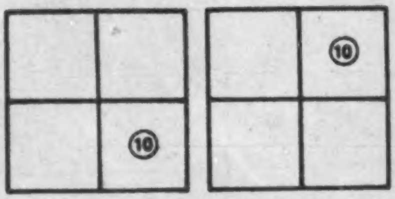
= ___



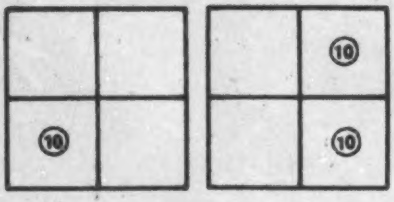
= ___



= ___



= ___



= ___

10 × 3 = ___

10 × 9 = ___

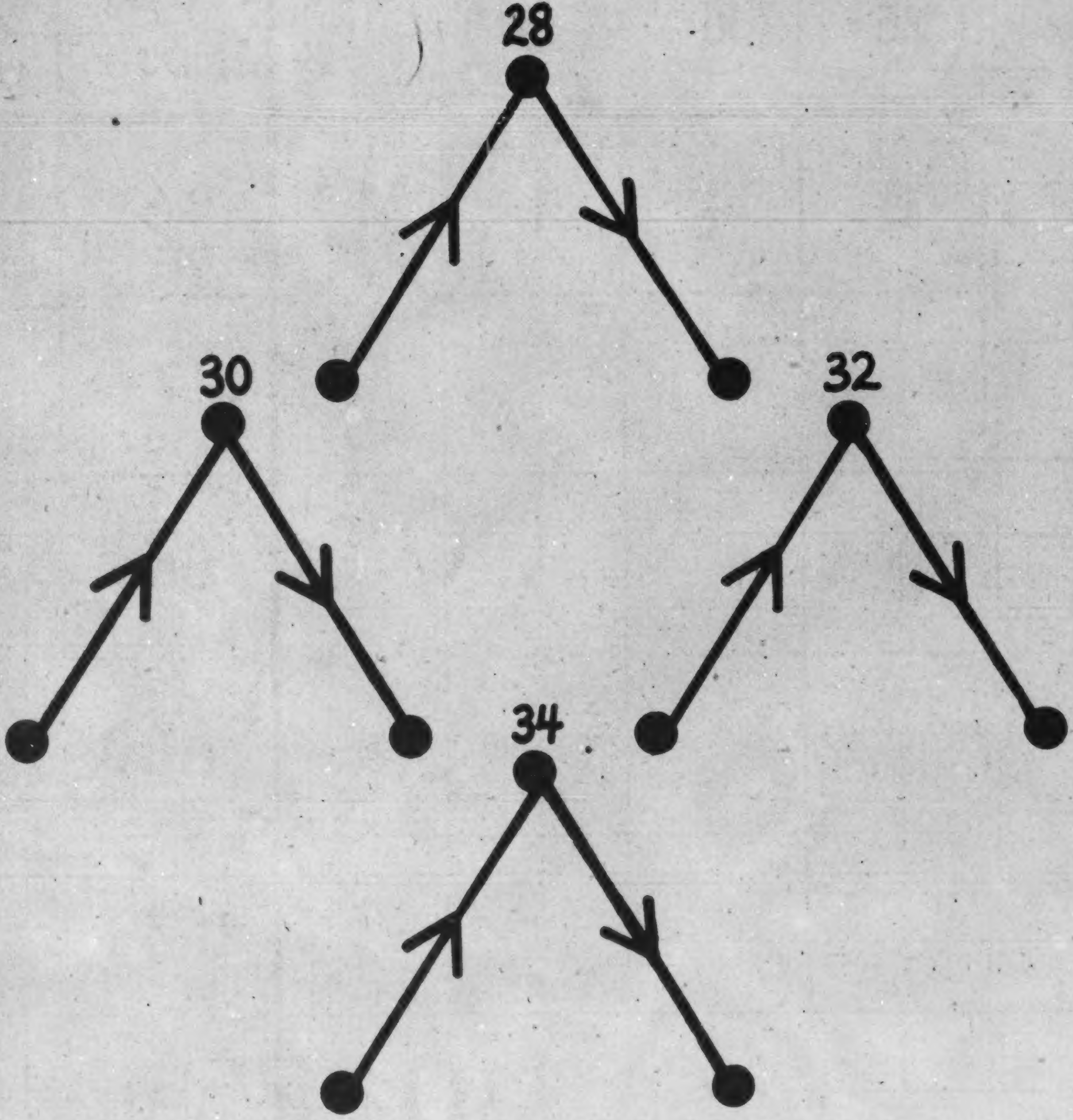
10 × 20 = ___

10 × 14 = ___

10 × 25 = ___

Label the dots.

2 ×



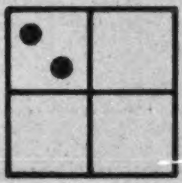
Show a way to have each amount of money in change.

Many answers are possible. One is done for you.

25¢	10¢	5¢	1¢	TOTAL AMOUNT
0	4	1	1	46¢
				17¢
				65¢
				$1.00
				$0.39
				$0.91

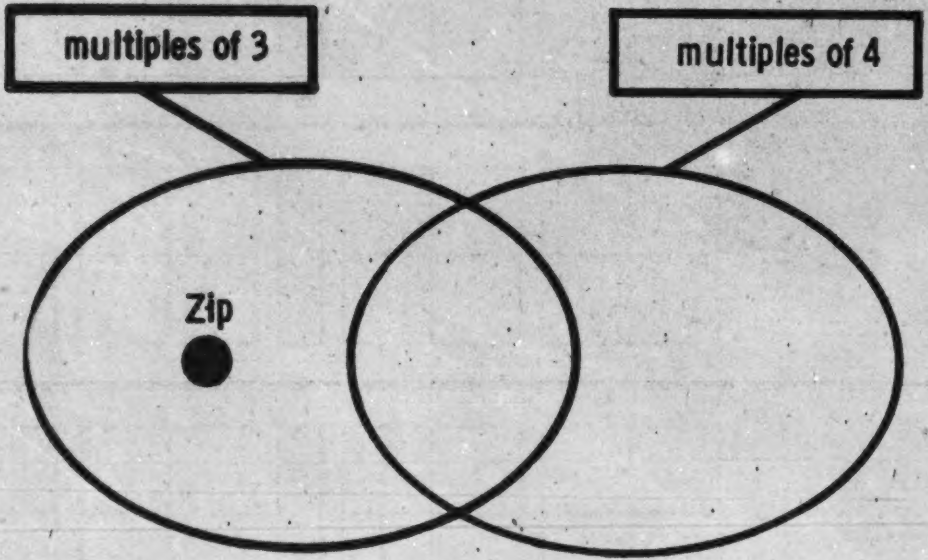
Zip is a secret number.

Zip can be put on this Minicomputer by adding one more regular checker.



Zip could be ________, ________, ________, or ________.

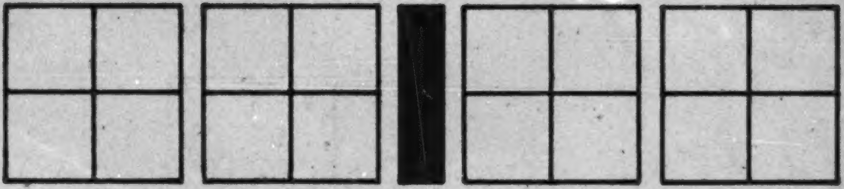
Zip is in this string picture.


multiples of 3
multiples of 4
Zip

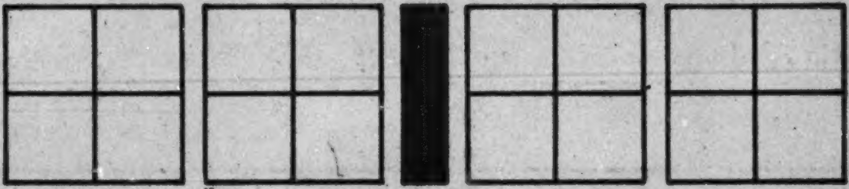
Who is Zip? ________

Put these numbers on the Minicomputer.

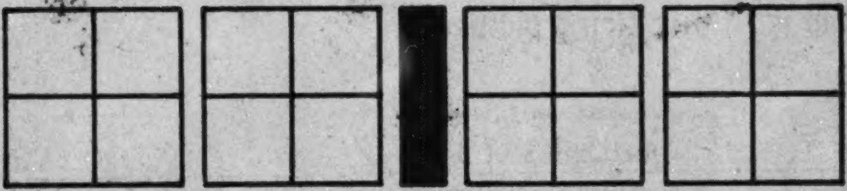
10 =



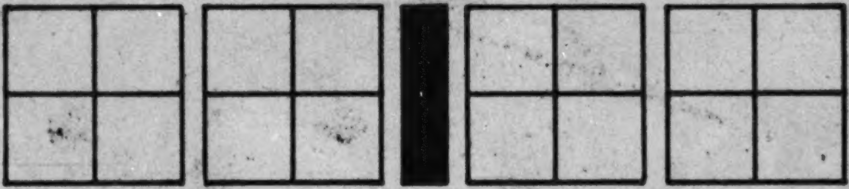
0.50 =



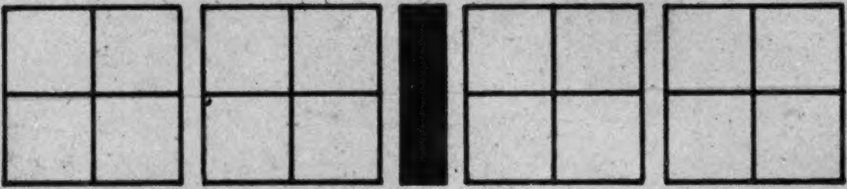
10.50 =



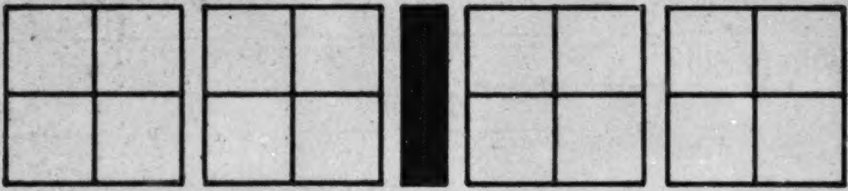
4 =



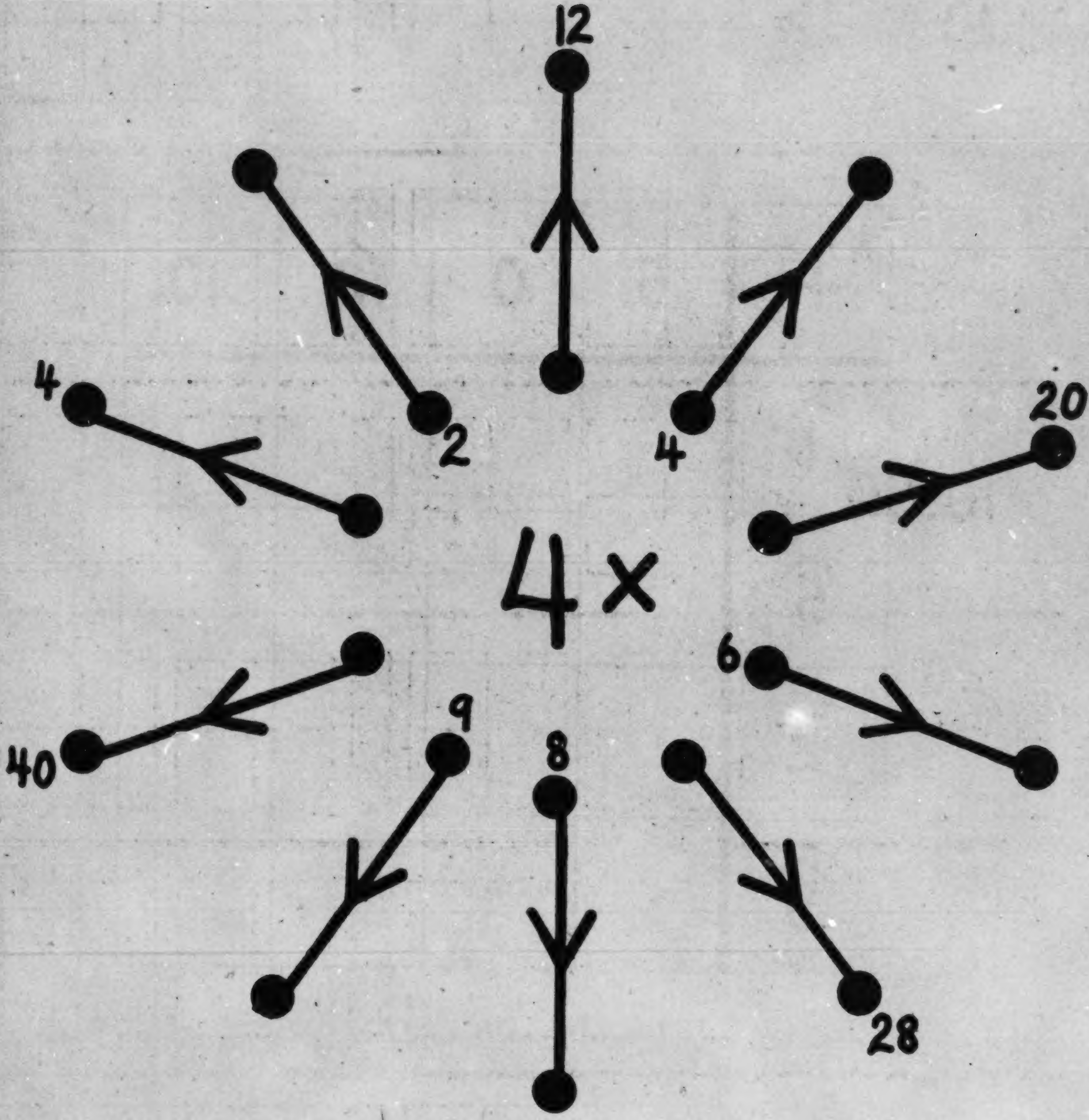
0.28 =



4.28 =



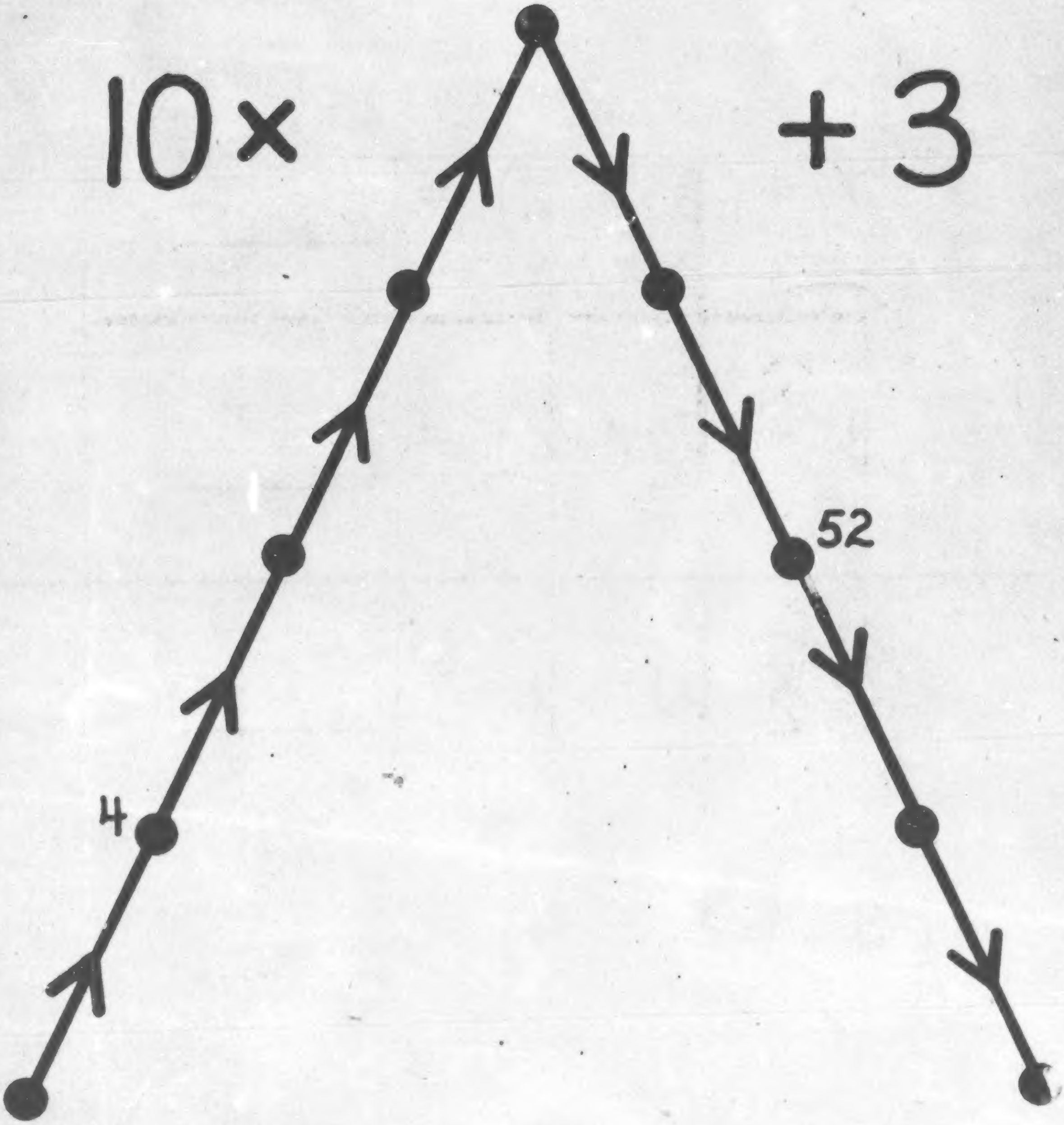
Label the dots.


12
4
2
4
20
4x
6
9
8
40
28

Complete this addition table.

+	5	0	$\hat{2}$	10
$\hat{1}$				
$\hat{5}$				
2				
$\hat{3}$				

Label the dots.



Complete these number stories.

$(7 + 8) \times 2 =$ ______

$7 + (8 \times 2) =$ ______

$8 + (7 \times 2) =$ ______

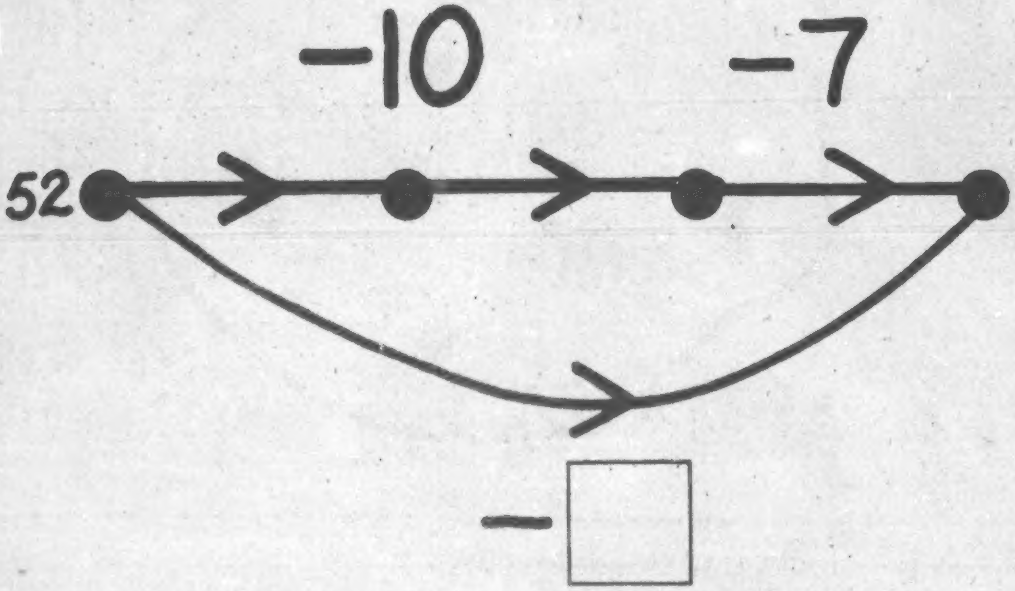
$(3 \times 5) - 4 =$ ______

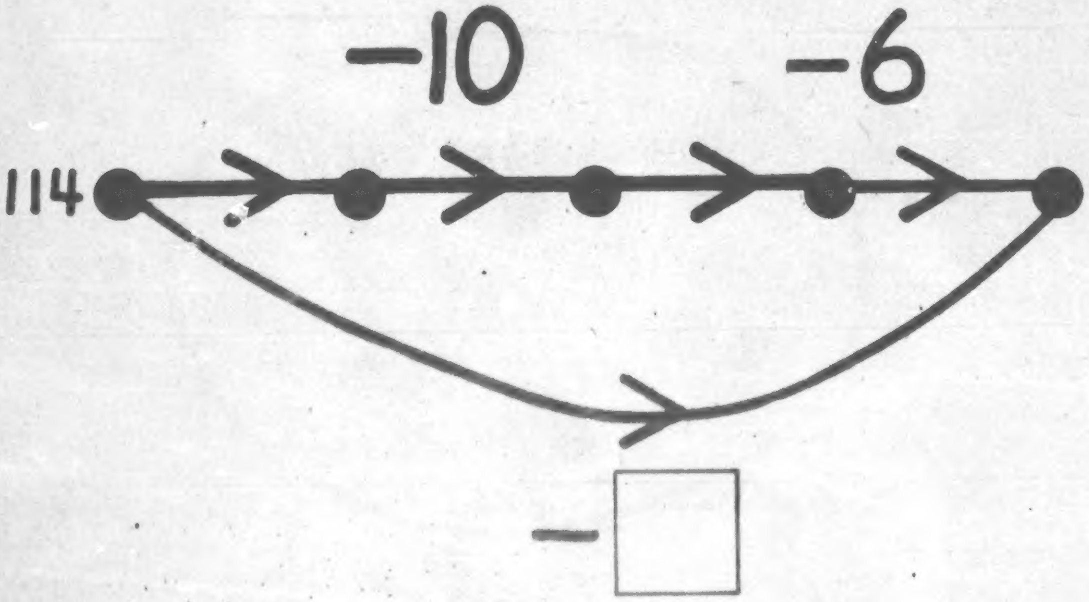
$3 \times (5 - 4) =$ ______

$(3 \times 4) - 5 =$ ______

Label the dots.

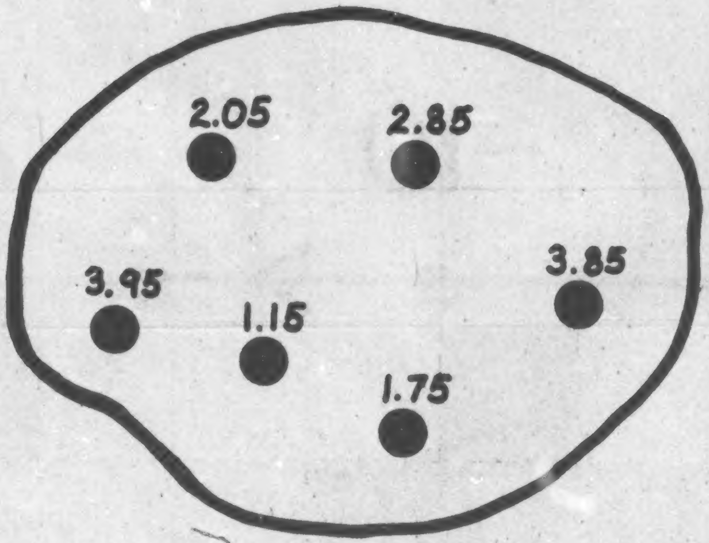
In each picture fill in the box for the green arrow.





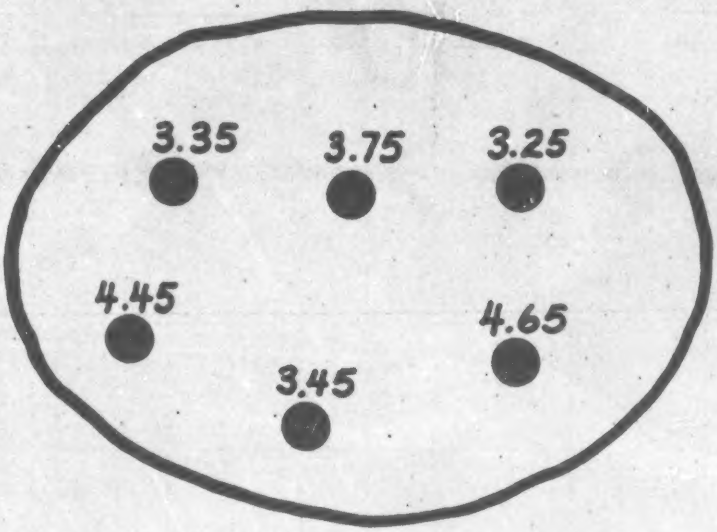
Lisa buys two flags and spends exactly $5.

Draw one string around the prices of these two flags.

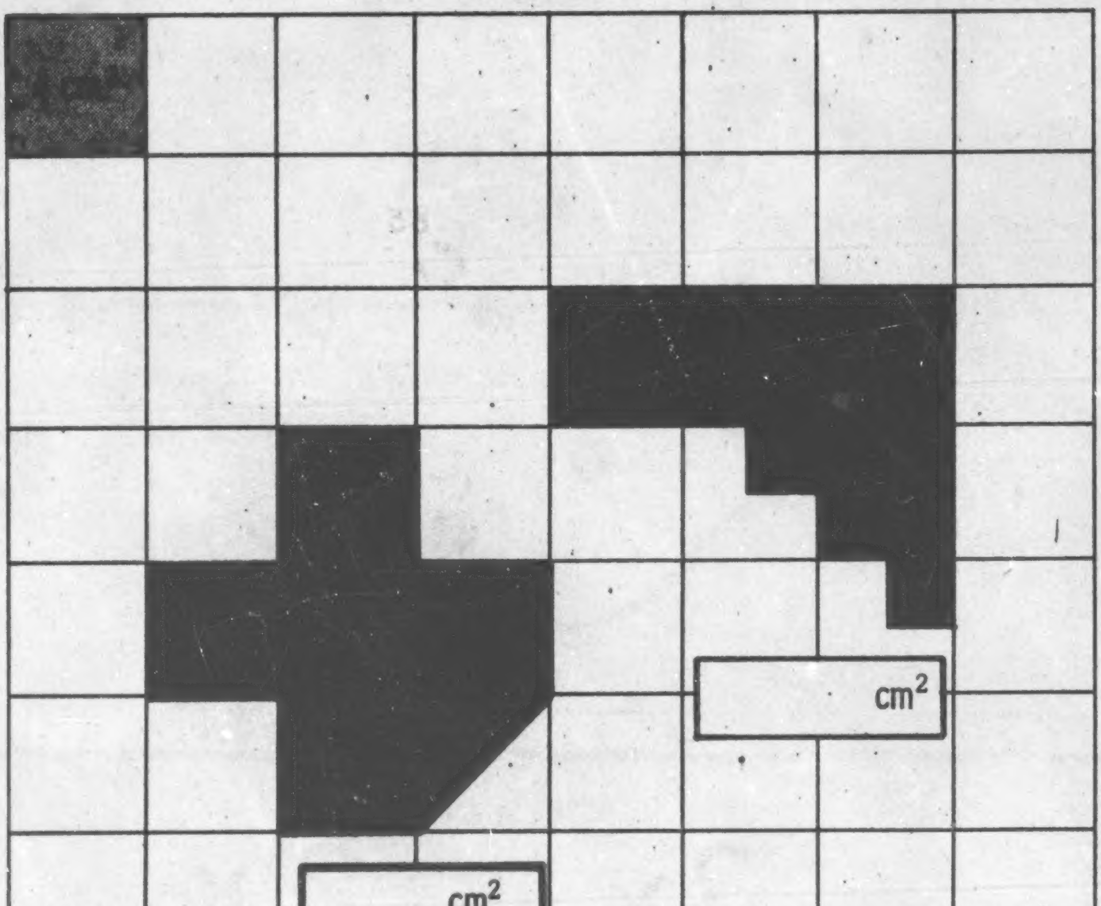

2.05
2.85
3.95
1.15
3.85
1.75

Charles buys two candles and spends exactly $8.

Draw one string around the prices of these two candles.

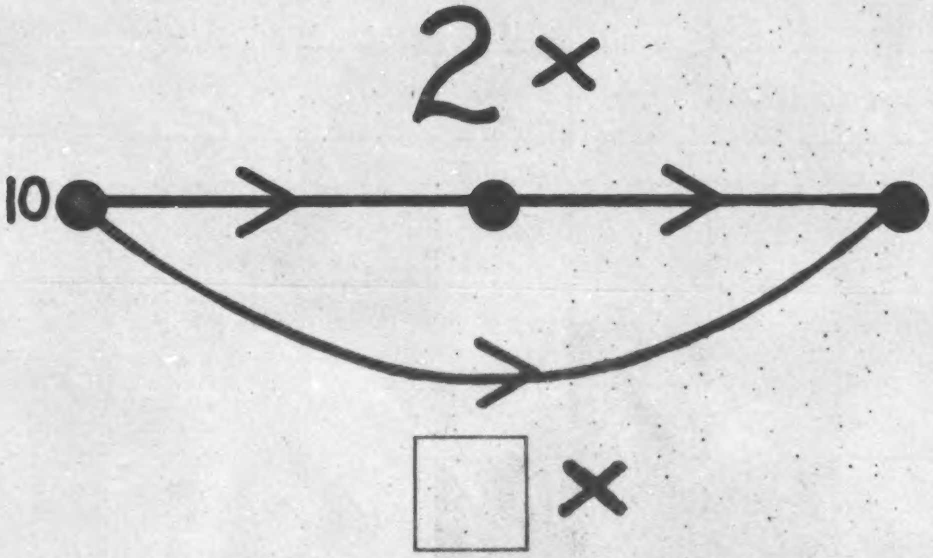

3.35
3.75
3.25
4.45
4.65
3.45

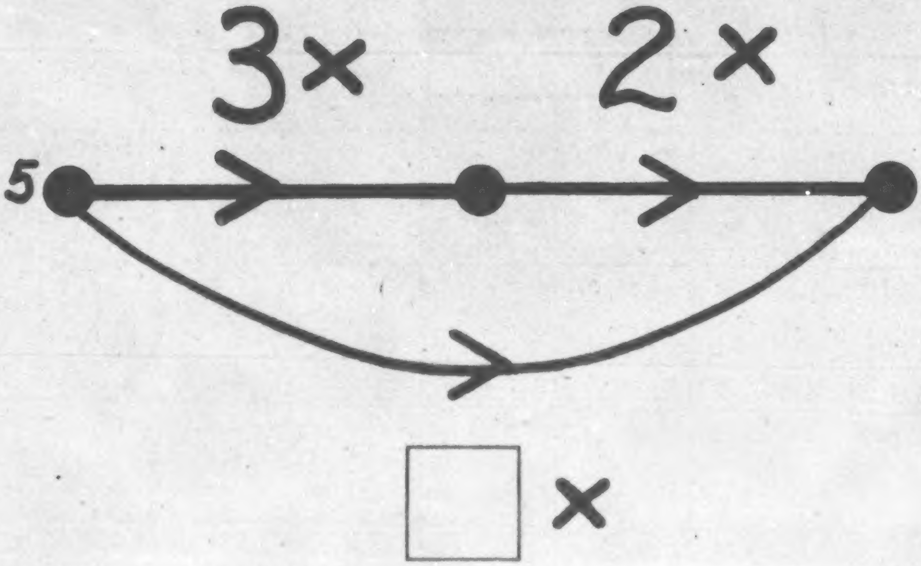
Find the area of each square. Color a shape whose area is 30 cm^2.



Label the dots.

In each picture fill in the box for the green arrow.





Build a red-blue road from 0 to 503.

10 ×

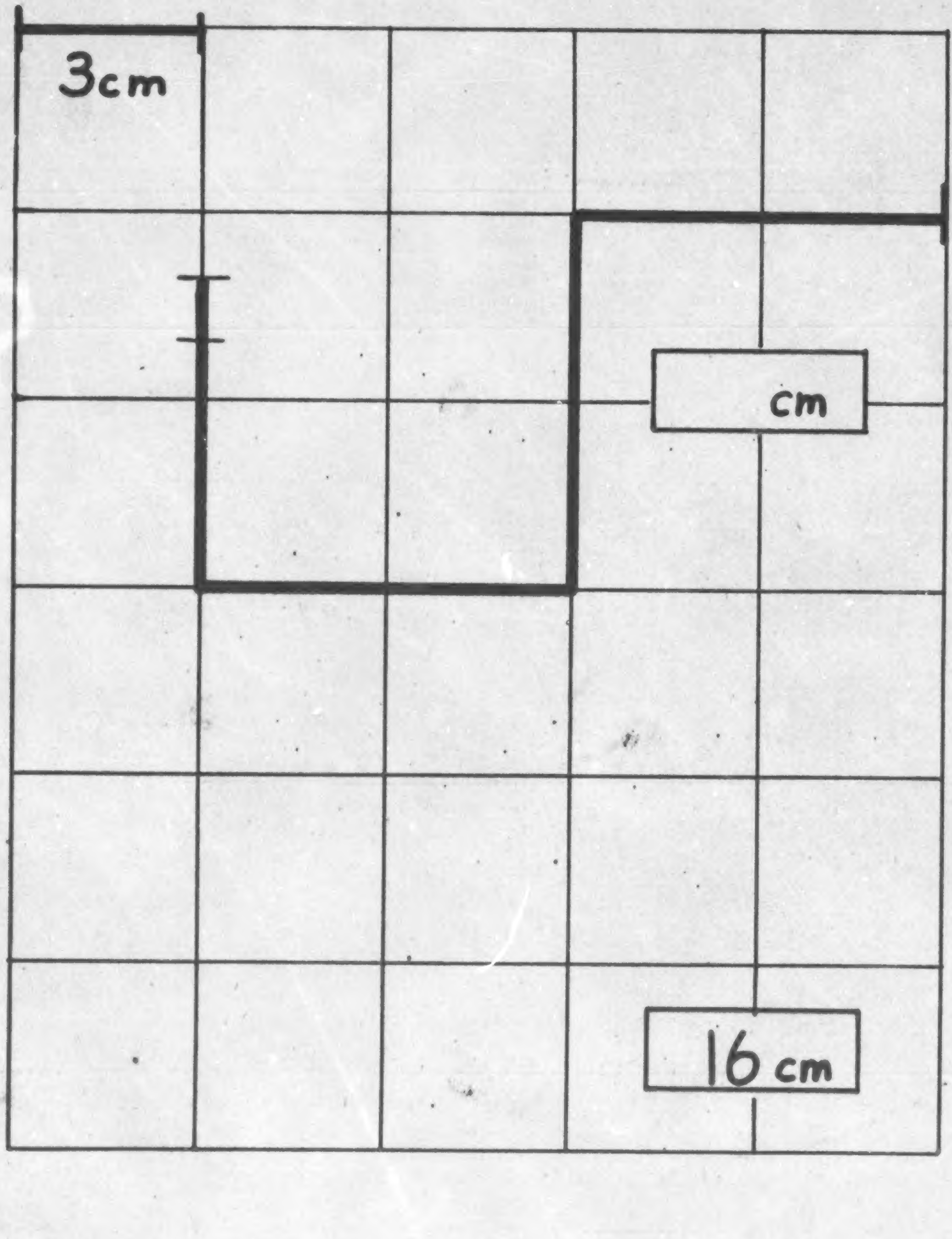
+1

● 0

503 ●

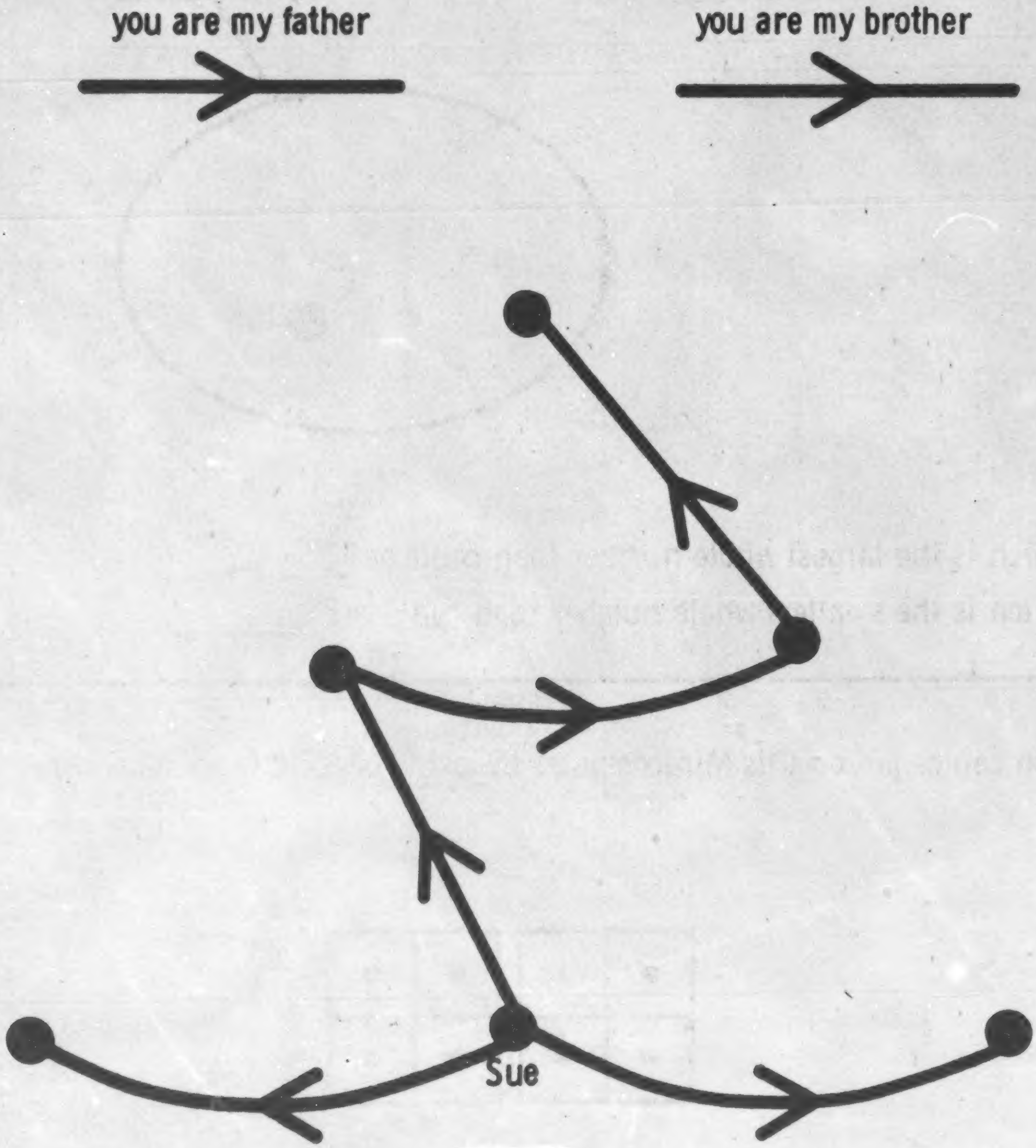
Find the length of the red zigzag path.

Draw a blue zigzag whose length is 16 cm.



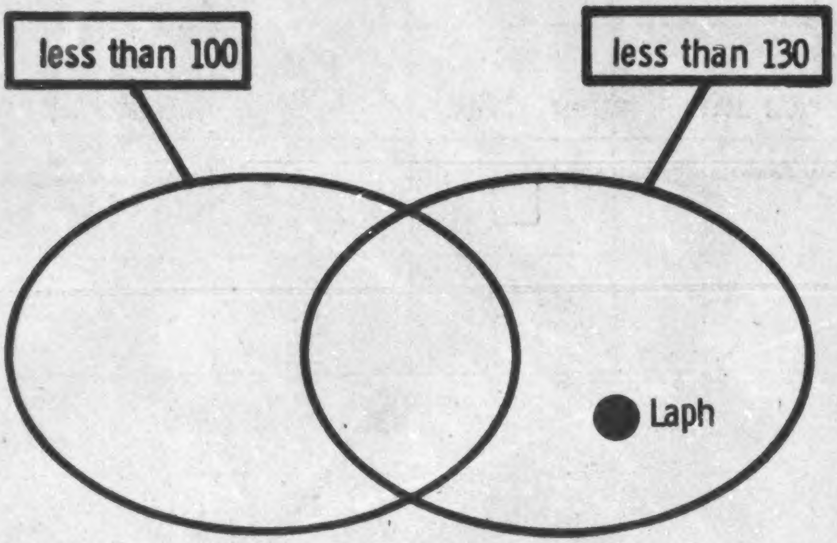
This picture shows some people in Sue's family.

Draw the missing red and blue arrows.


you are my father
you are my brother
Sue

Laph is a secret number.

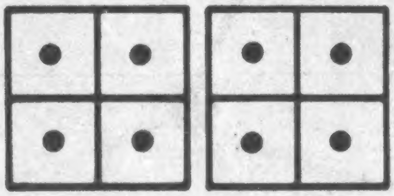
Laph is in this string picture.


less than 100
less than 130
Laph

Which is the largest whole number Laph could be?__________

Which is the smallest whole number Laph could be?__________

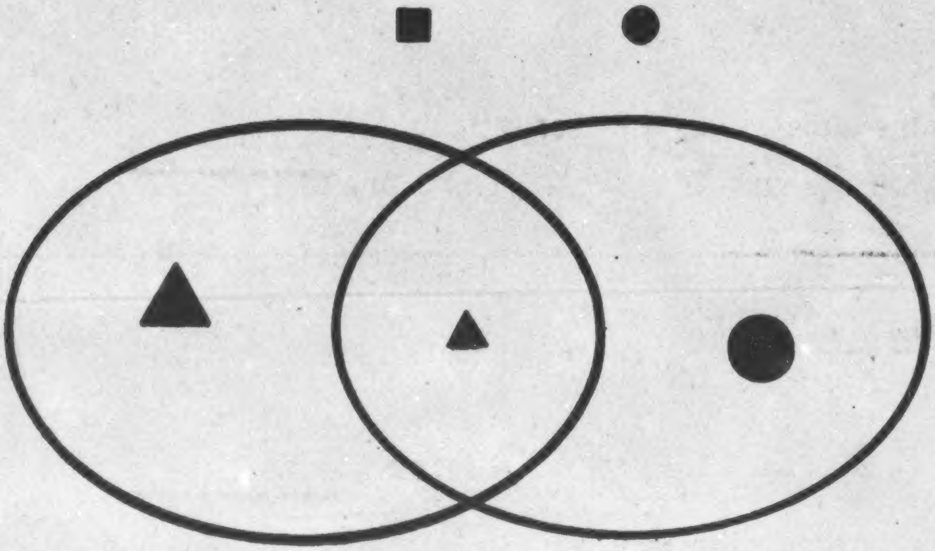
Laph can be put on this Minicomputer by taking off exactly one checker.



Laph is__________.

These are the possible string labels.

RED	YELLOW	BLUE	GREEN
NOT RED	NOT YELLOW	NOT BLUE	NOT GREEN
○	□	△	BIG
NOT ○	NOT □	NOT △	LITTLE



The red string is for ________.

The blue string is for ________.

Put in parentheses to get as small a number as possible.

$5 + 3 \times 2 =$ ________

$4 \times 4 + 6 =$ ________

$7 \times 2 - 1 =$ ________

$8 - 4 \times 2 =$ ________

$9 + 3 \times 5 =$ ________

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Name ______________________________

3 44601

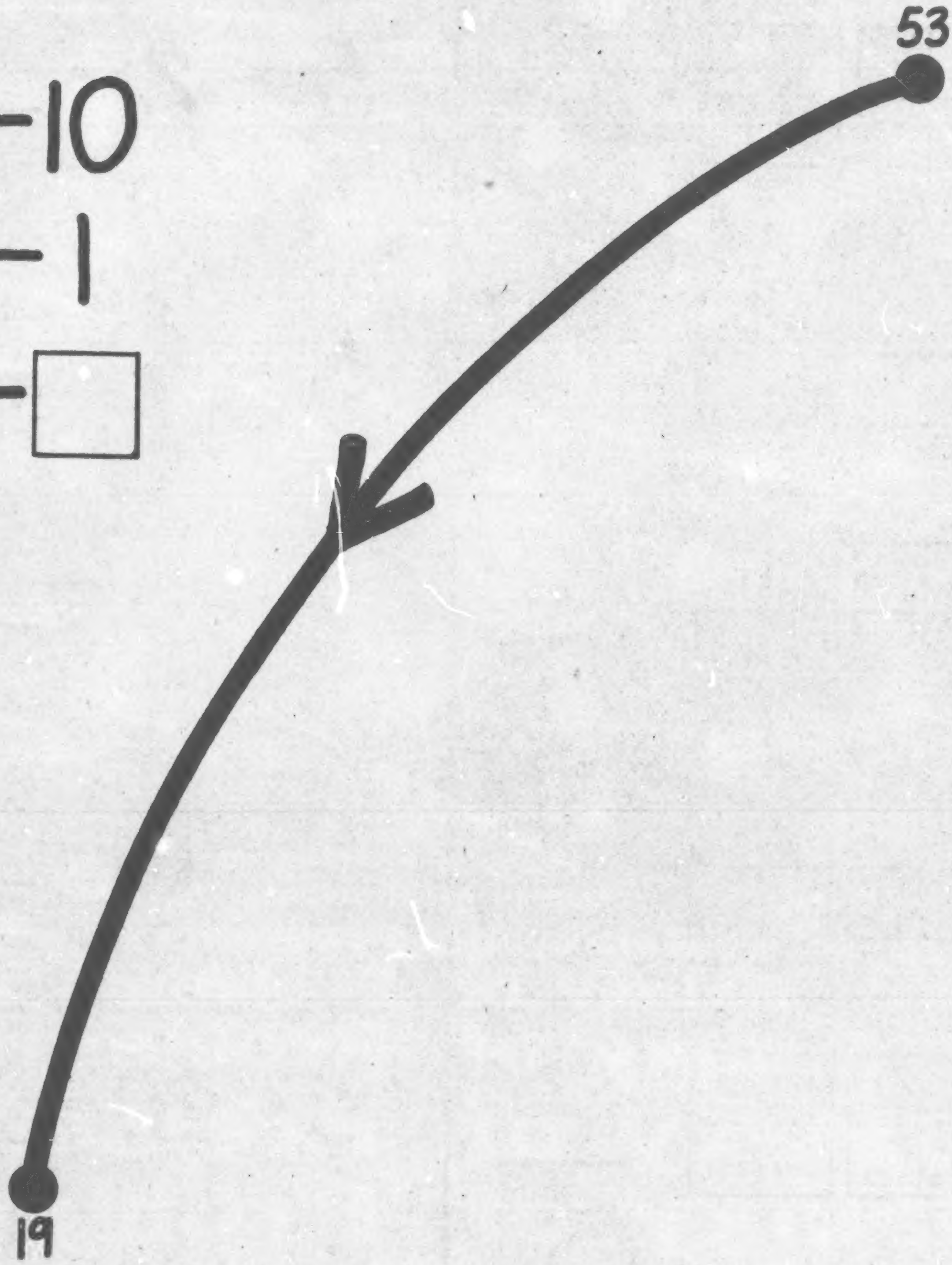
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems

3

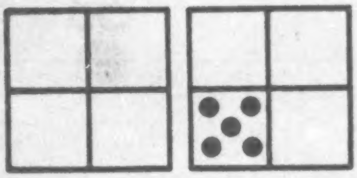
274 MAY 1 9 1980

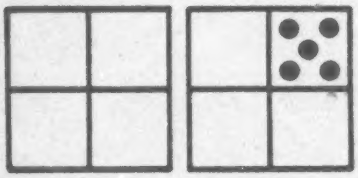
Build a red-blue road from 53 to 19.
Fill in the box for the green arrow.

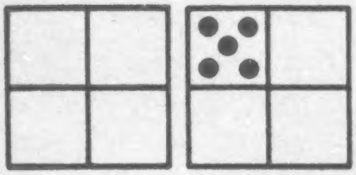
−10
−1
−☐

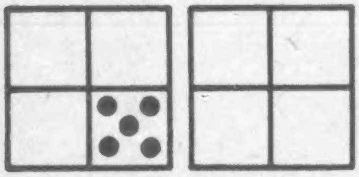


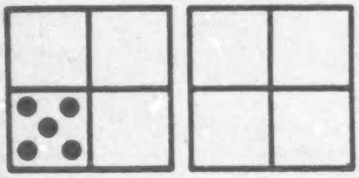
Complete.


= ______


= ______


= ______


= ______


= ______

5 × 2 = ______

5 × 4 = ______

5 × 8 = ______

5 × 10 = ______

5 × 20 = ______

Build a blue-red road from 107 to 149.

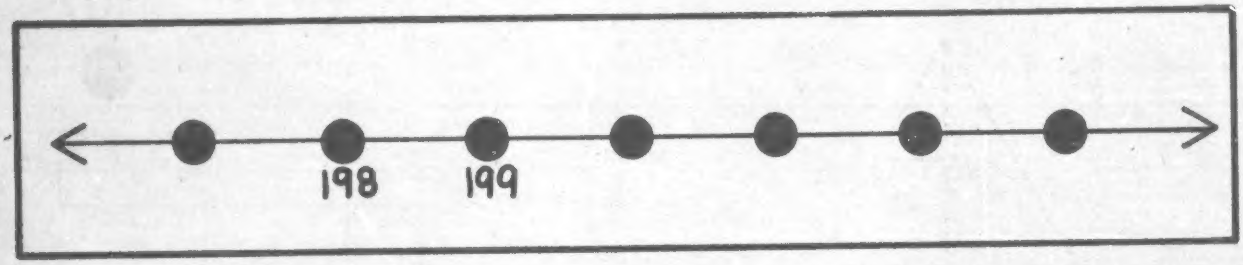
+10

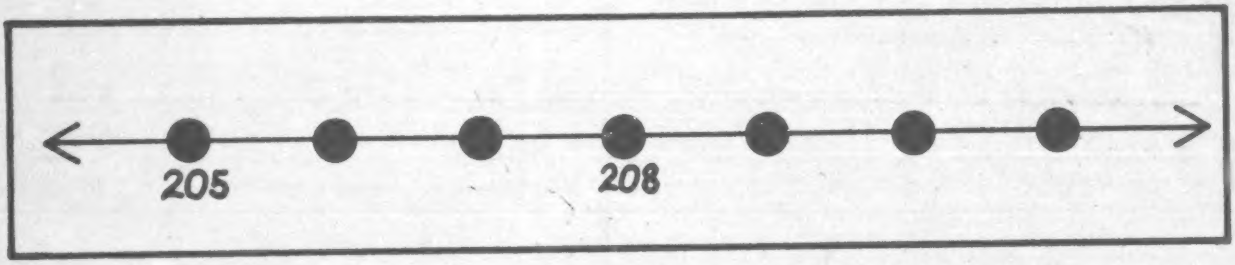
+2

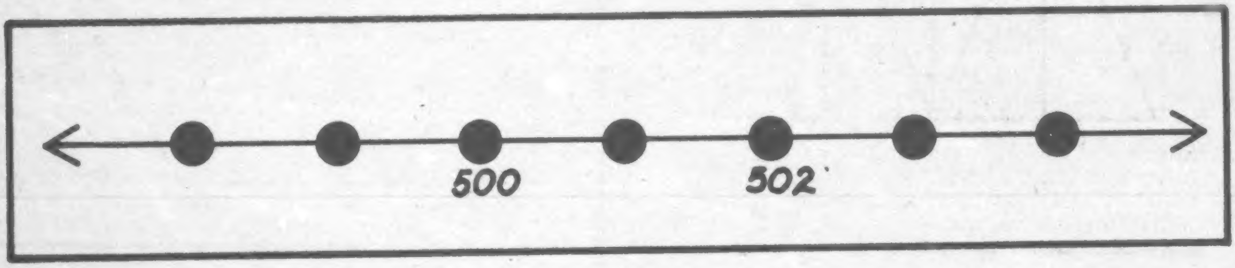
107
●

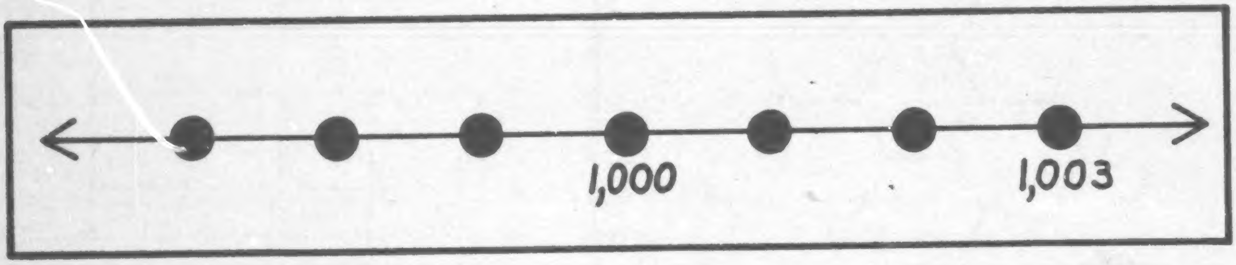
●
149

Label the dots on these number lines.

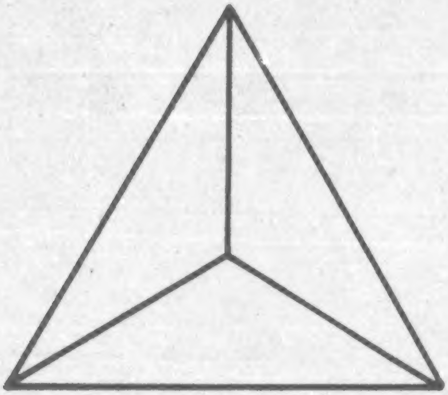


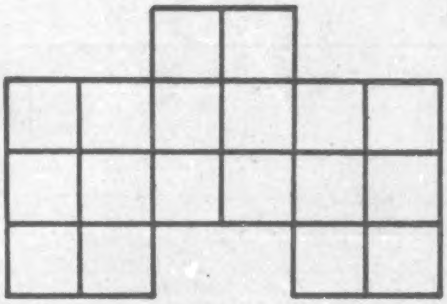


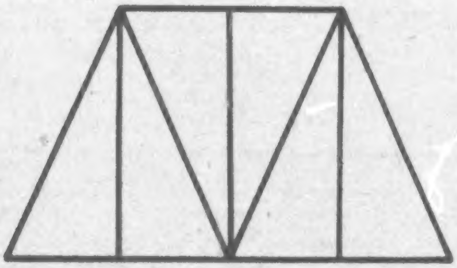


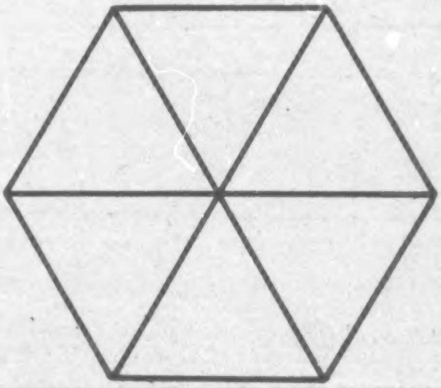


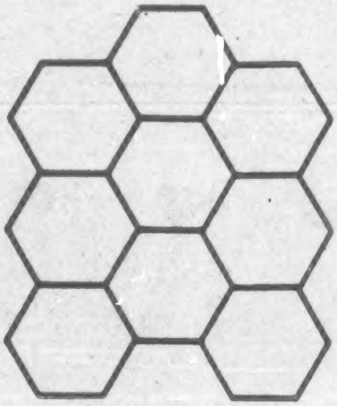
Color one-third of each shape red.

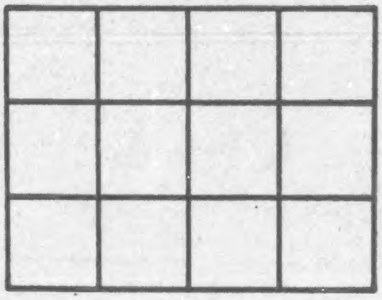








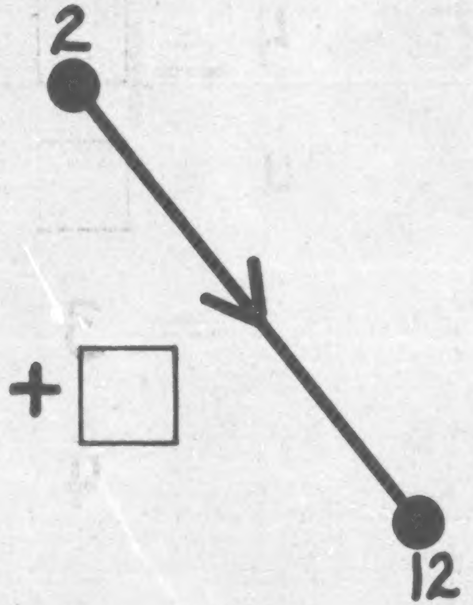


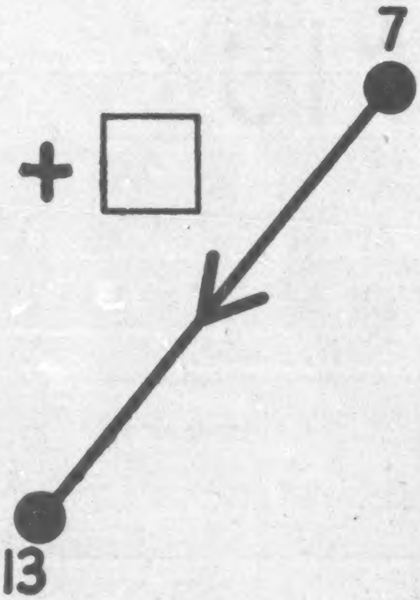


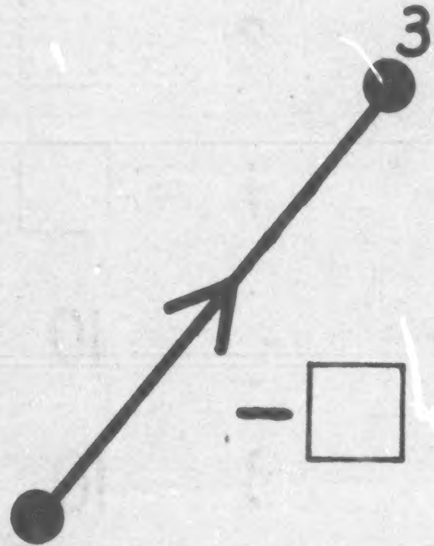
Build a red-blue-green road between 4 and 57. Try to use as few arrows as possible.

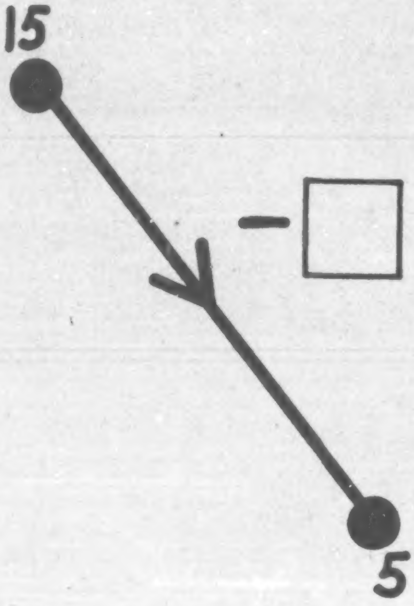
10x +1 -1

Fill in the box for each arrow.









Complete.

10 − 5 = ☐

9 − 4 = ☐

8 − ☐ = 5

☐ − 2 = 5

5 − 4 = ☐

6 − 4 = ☐

7 − ☐ = 3

☐ − 4 = 4

15 − 5 = ☐

15 − 6 = ☐

☐ − 7 = 8

15 − ☐ = 7

12 − 2 = ☐

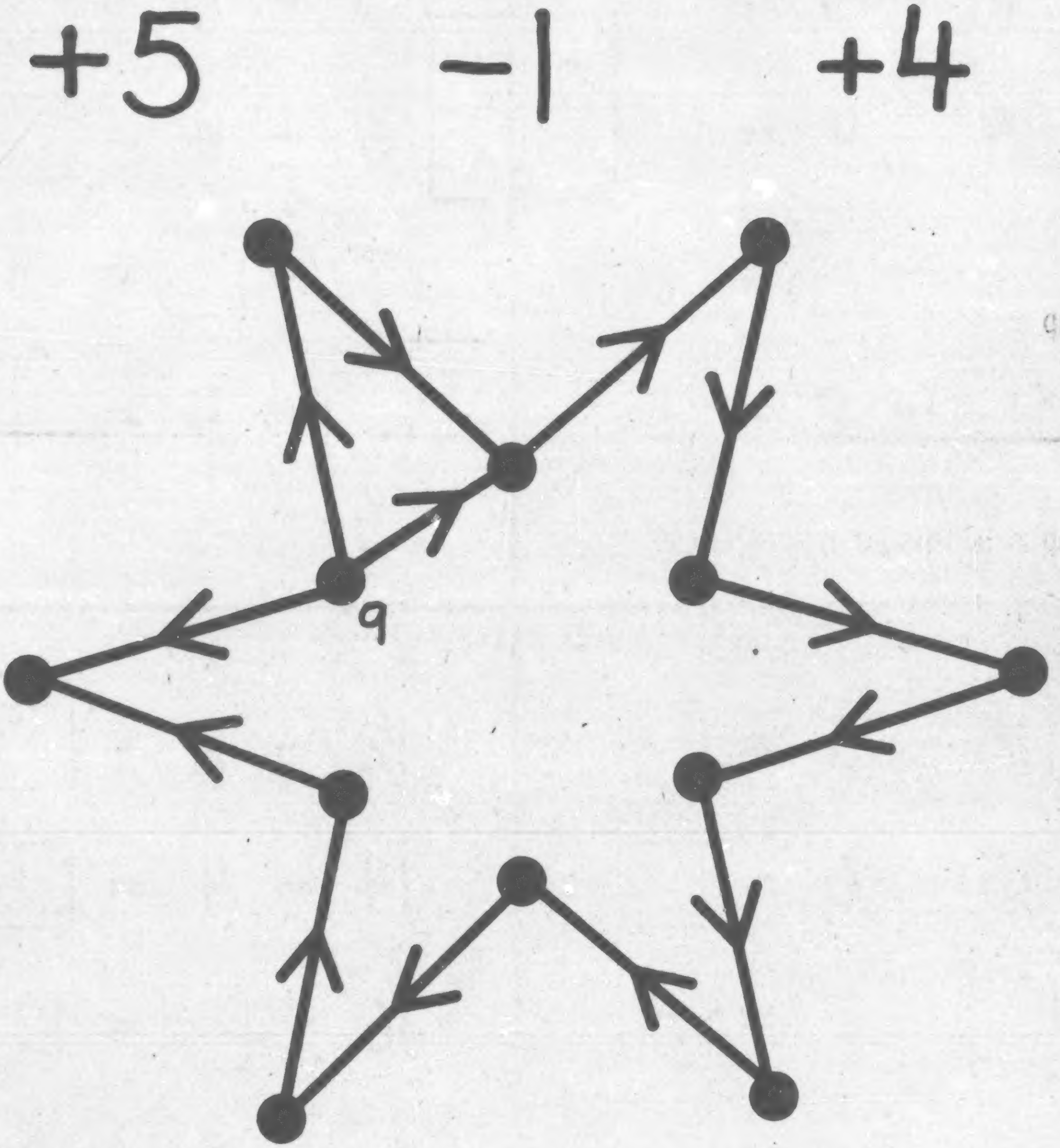
14 − 4 = ☐

16 − ☐ = 10

☐ − 8 = 10

Label the dots.

Draw all the missing green arrows.

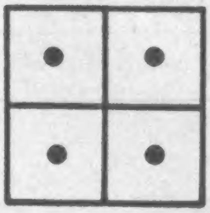


There should be ten green arrows.

What could the black arrow be for? ____________

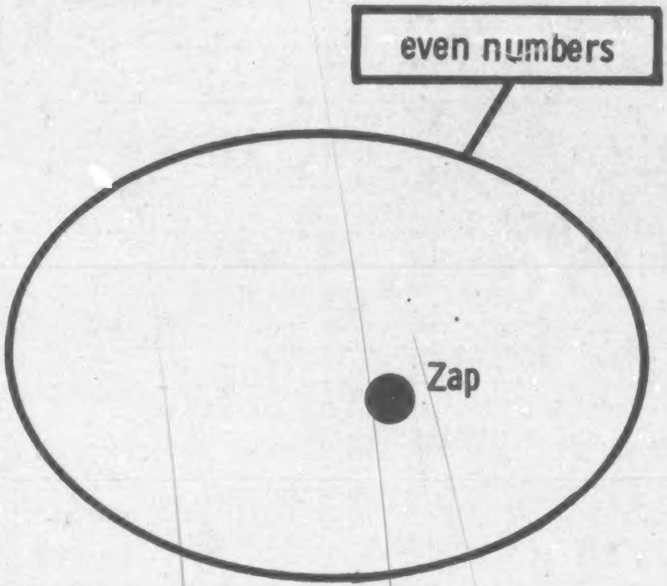
Zap is a secret number.

Zap can be put on this Minicomputer by removing one checker.

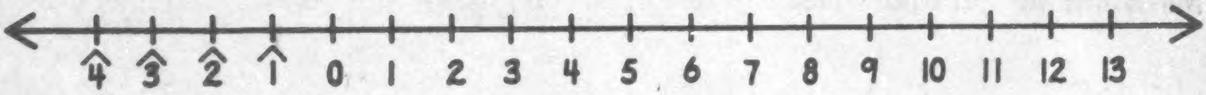


Zap could be ________, ________, ________, or ________.

Zap is in this string picture.


even numbers
Zap

Who is Zap? ________



Complete.

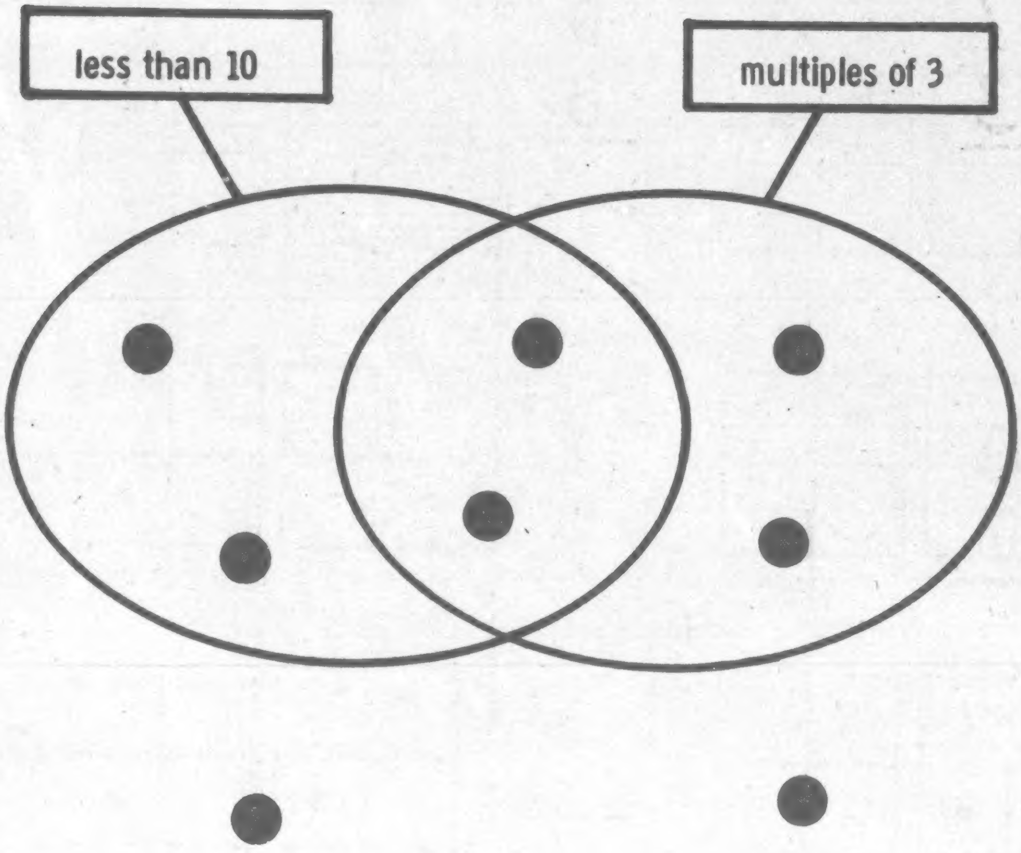
$\begin{array}{r}7\\-3\\\hline\end{array}$ $\begin{array}{r}3\\-7\\\hline\end{array}$ $\begin{array}{r}5\\-8\\\hline\end{array}$ $\begin{array}{r}8\\-5\\\hline\end{array}$ $\begin{array}{r}4\\-3\\\hline\end{array}$ $\begin{array}{r}3\\-4\\\hline\end{array}$

$\begin{array}{r}10\\-7\\\hline\end{array}$ $\begin{array}{r}7\\-10\\\hline\end{array}$ $\begin{array}{r}12\\-9\\\hline\end{array}$ $\begin{array}{r}9\\-12\\\hline\end{array}$ $\begin{array}{r}10\\-13\\\hline\end{array}$ $\begin{array}{r}13\\-10\\\hline\end{array}$

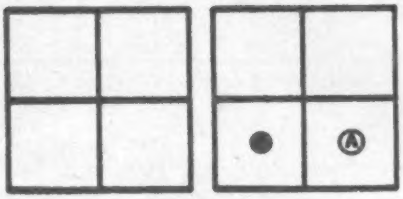
$\begin{array}{r}6\\-4\\\hline\end{array}$ $\begin{array}{r}5\\-9\\\hline\end{array}$ $\begin{array}{r}1\\-3\\\hline\end{array}$ $\begin{array}{r}11\\-8\\\hline\end{array}$ $\begin{array}{r}8\\-10\\\hline\end{array}$ $\begin{array}{r}12\\-4\\\hline\end{array}$

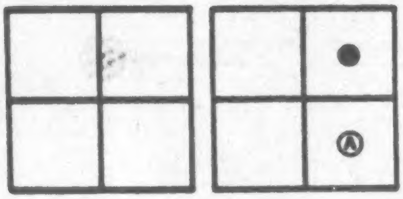
Label the dots in this string picture.

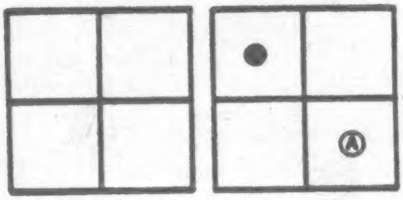
Many answers are possible.

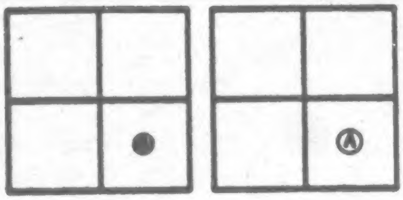

less than 10
multiples of 3

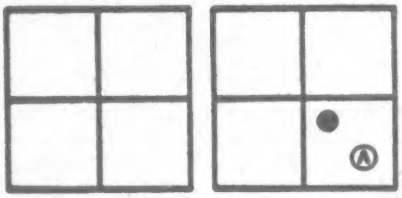
What number is on the Minicomputer?

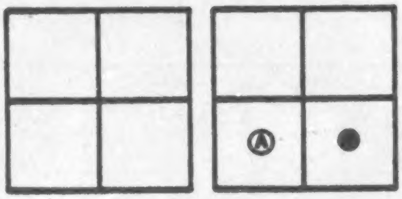

= ____

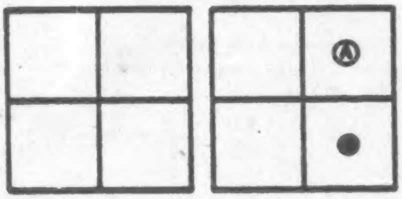

= ____

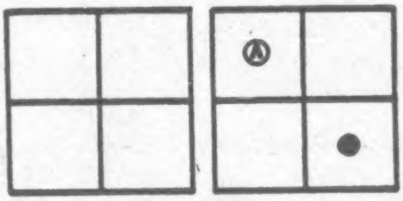

= ____

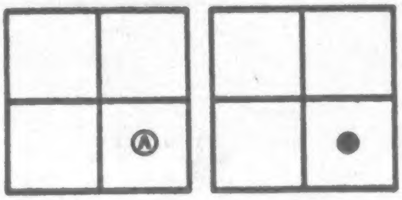

= ____

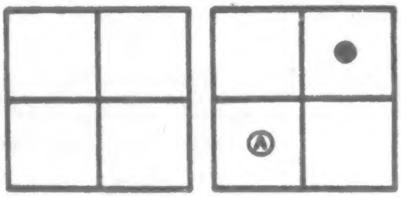

= ____


= ____


= ____


= ____

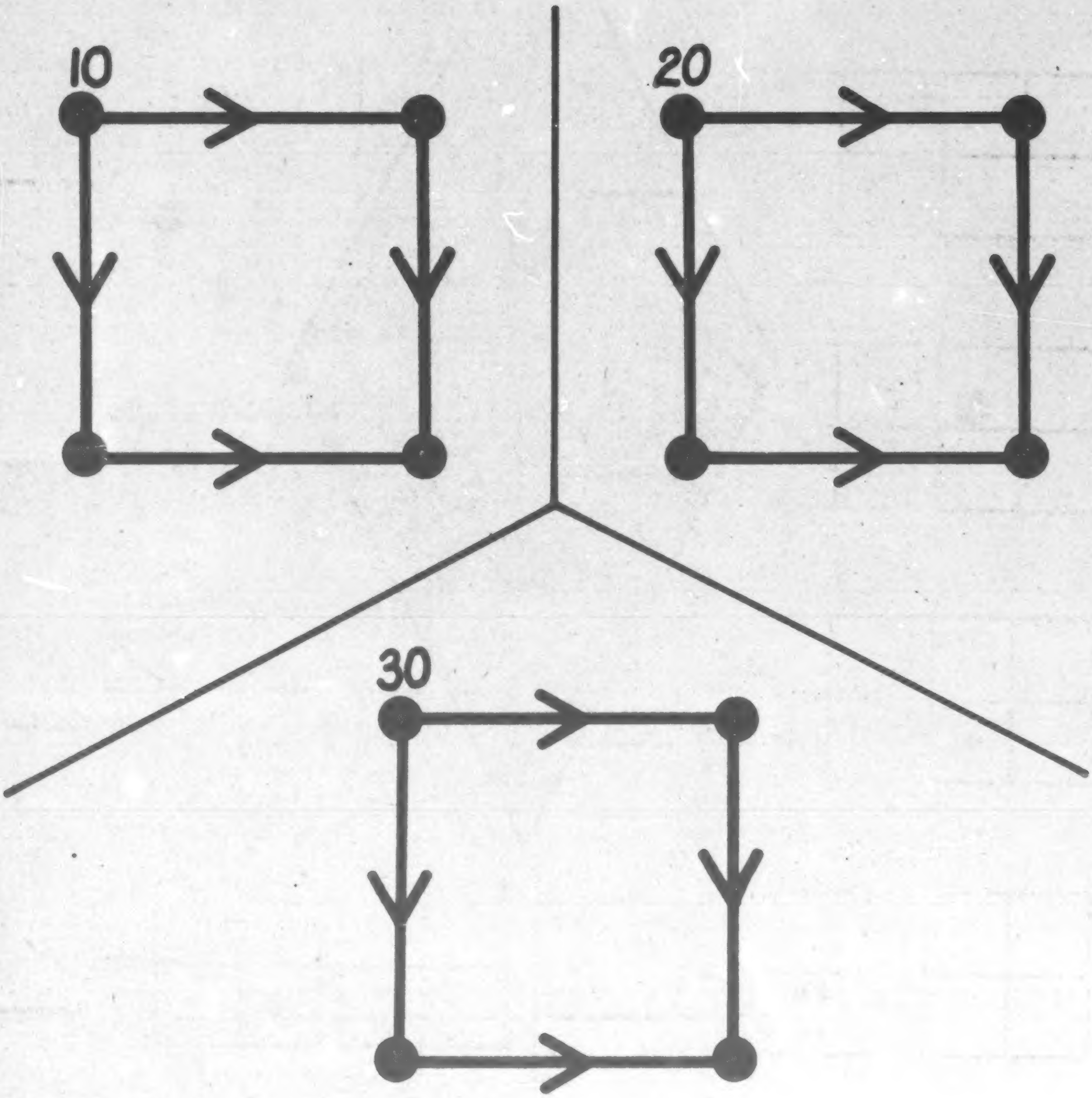

= ____


= ____

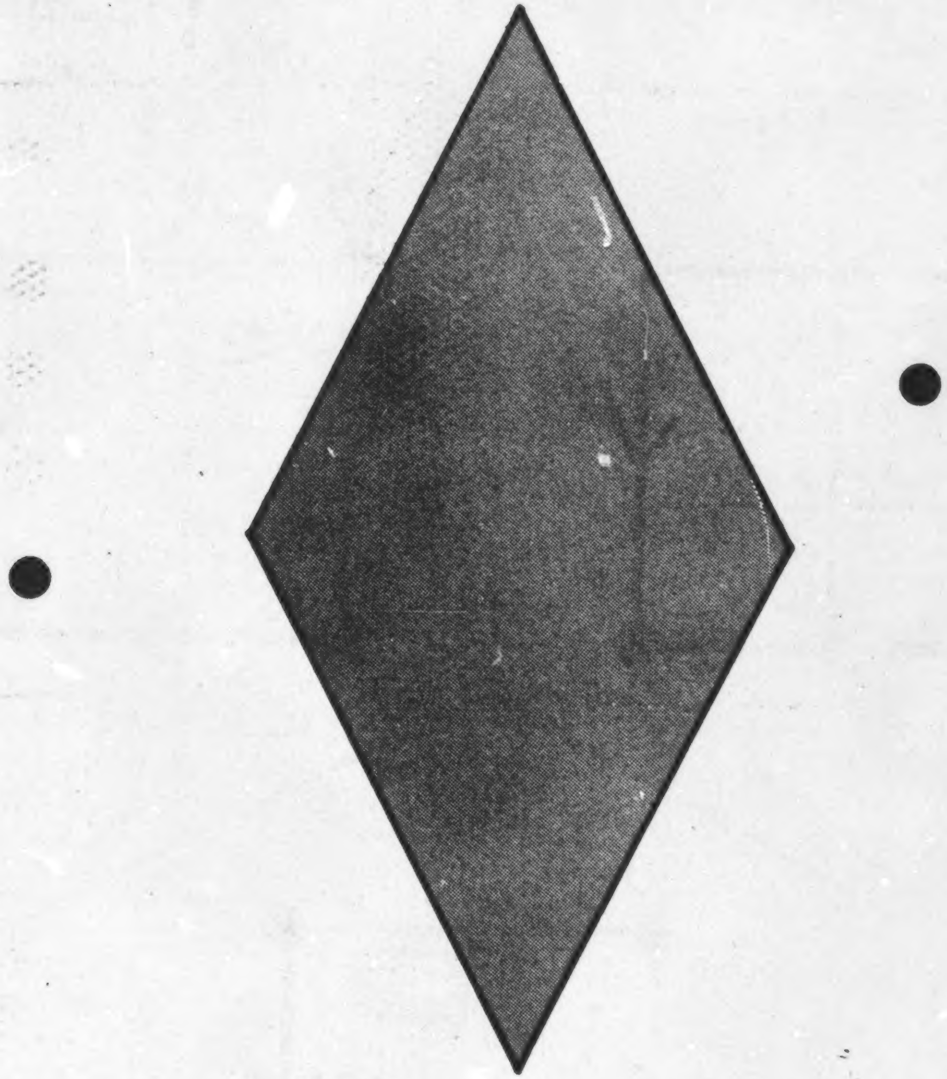
Label the dots.

Fill in the box for the green arrows.

$\frac{1}{2}\times$ $+4$ $+\square$



Connect the dots with a zigzag path, but do not go through the building. Try to make your zigzag path shorter than 20 cm.



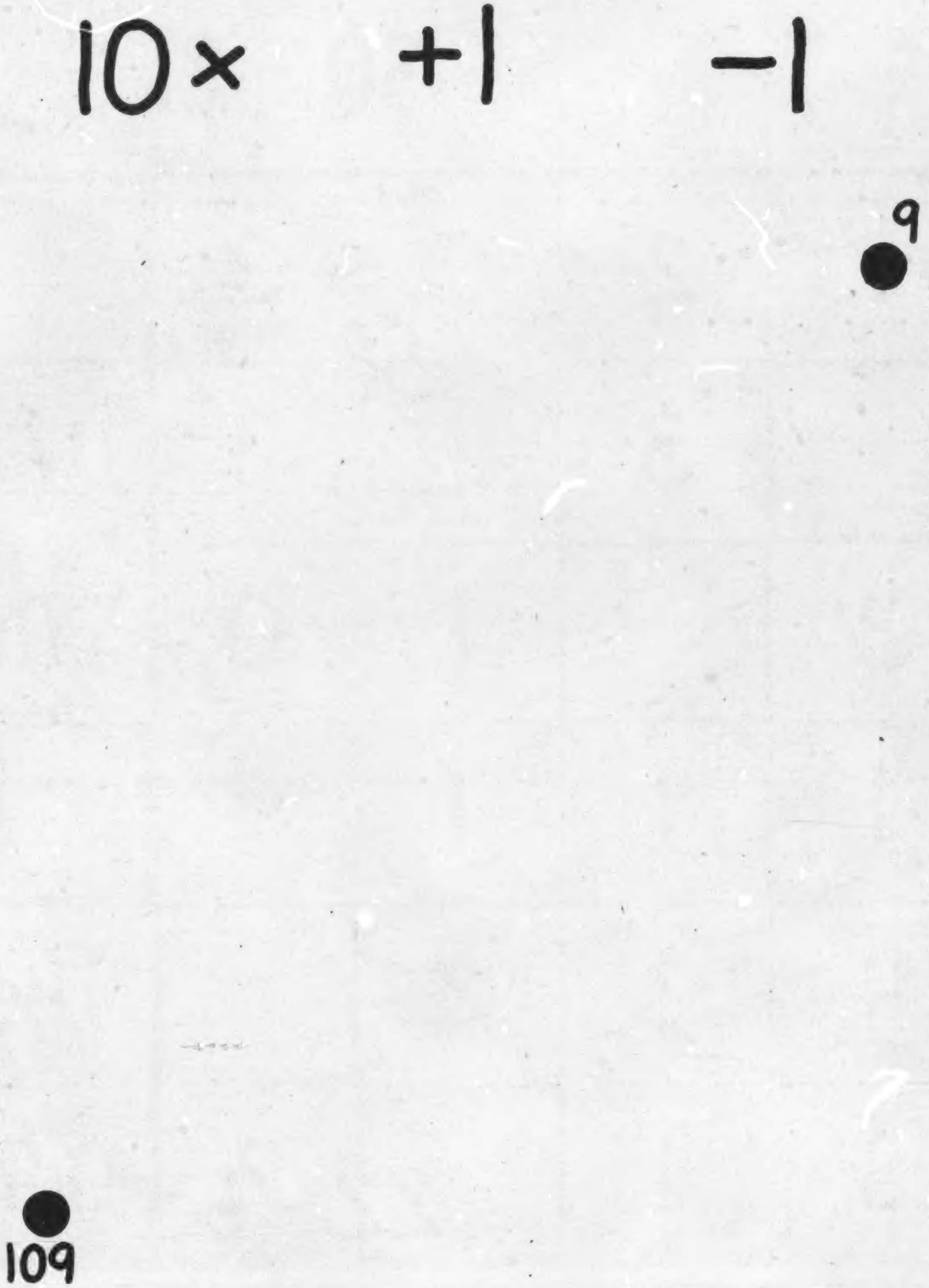
Length of zigzag path = __________ cm

Is the length of your zigzag path less than 20 cm? __________

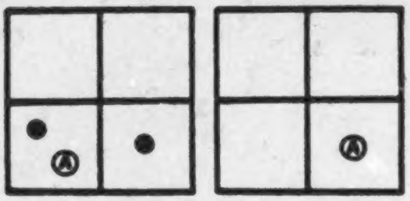
Complete this table.

25¢	10¢	5¢	1¢	TOTAL AMOUNT
2	2	0	2	
	3	1	3	$0.63
3		1	0	$1.00
1	1	1	9	
4	2	2		$1.45
3	1		2	$0.87

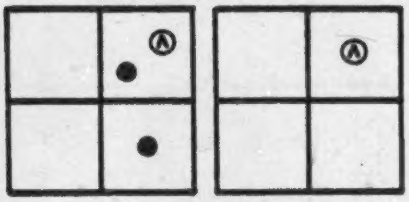
Build a red-blue-green road between 9 and 109. Try to use as few arrows as possible.



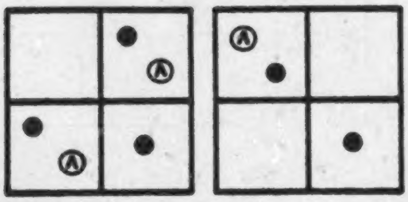
What number is on the Minicomputer?



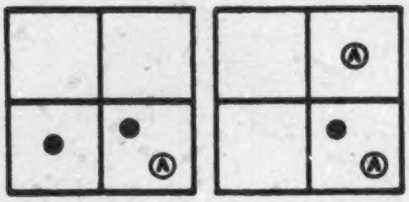
30 - 21 = ___



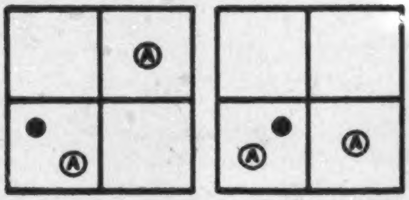
50 - 44 = ___



79 - 68 = ___



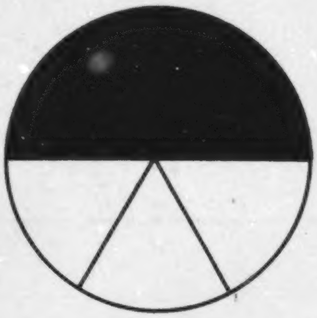
31 - 15 = ___



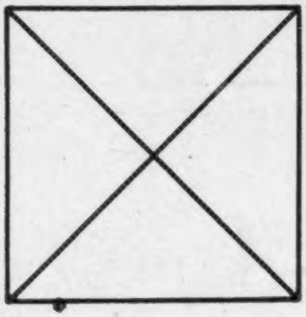
22 - 63 = ___

Color one-half of each shape red. In each case, write another name for $\frac{1}{2}$ as suggested by the picture.

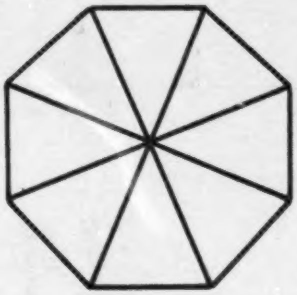
EXAMPLE



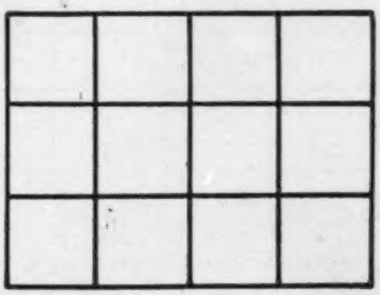
$\frac{1}{2} = \frac{3}{6}$



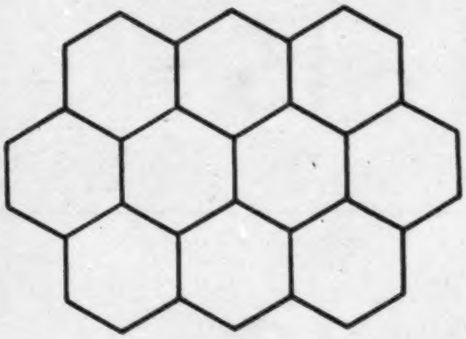
$\frac{1}{2} = -$



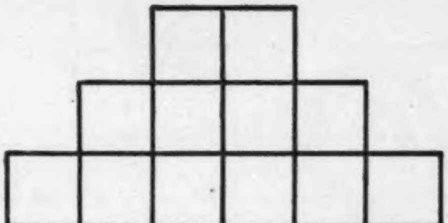
$\frac{1}{2} = -$



$\frac{1}{2} = -$

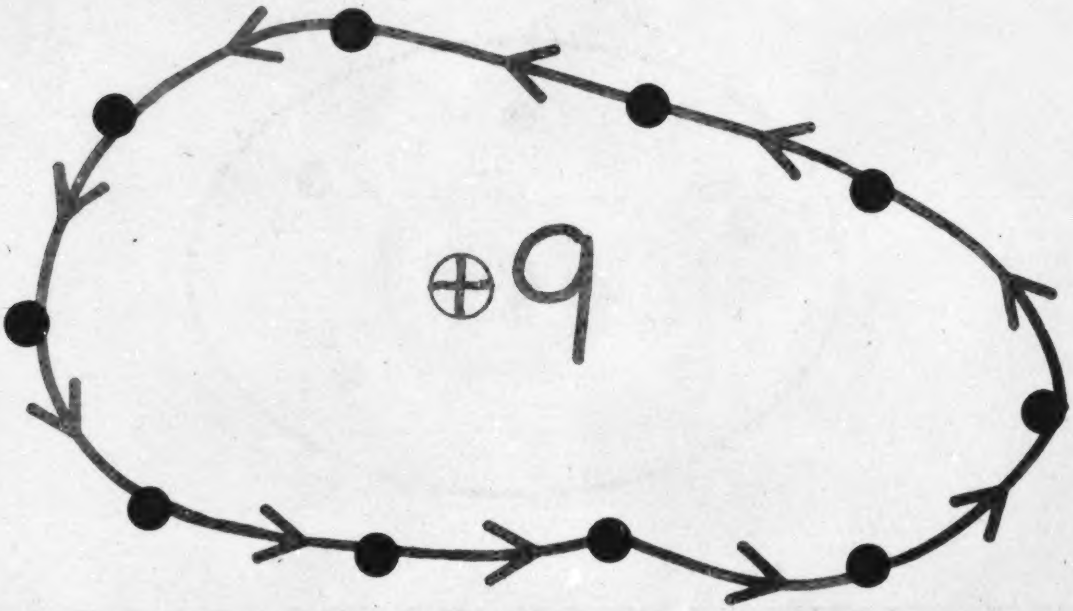


$\frac{1}{2} = -$



$\frac{1}{2} = -$

Ten number friends: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are playing the $\oplus$ 9 game. Put these numbers in the picture.



Complete these number stories about the ten friends' addition games.

$$6 \oplus 6 = \square$$

$$\square \oplus 8 = 3$$

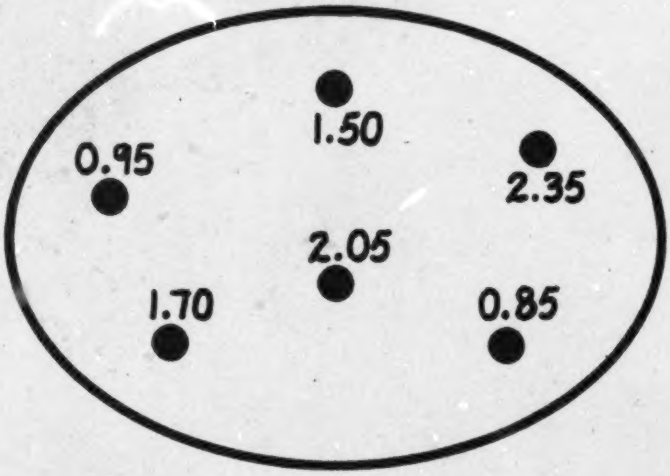
$$9 \oplus \square = 4$$

$$2 \oplus 4 \oplus 6 \oplus 8 = \square$$

$$5 \oplus \square \oplus 9 = 1$$

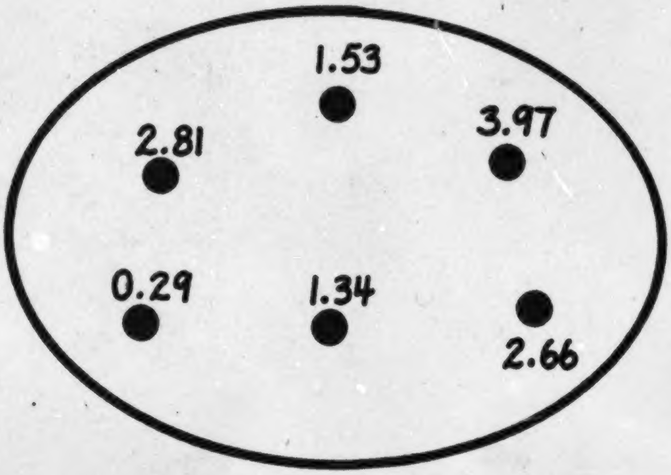
Dana buys two models and spends exactly $3.

The prices of these two models are in this string. Draw one string around these two prices.


1.50
0.95
2.35
2.05
1.70
0.85

Gina buys two science kits and spends exactly $4.

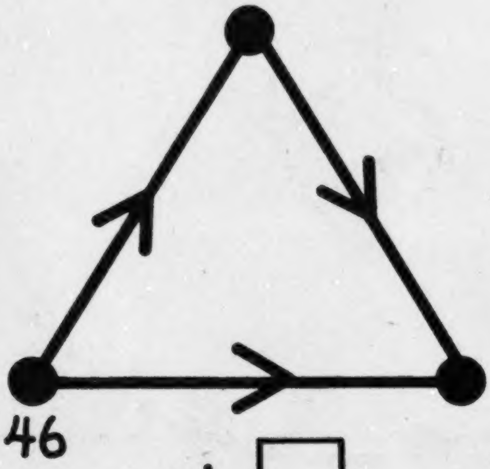
The prices of these two science kits are in this string. Draw one string around these two prices.


1.53
2.81
3.97
0.29
1.34
2.66

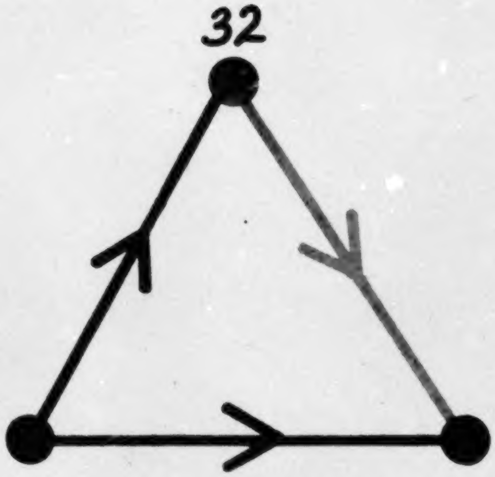
+10 +3

Label the dots.

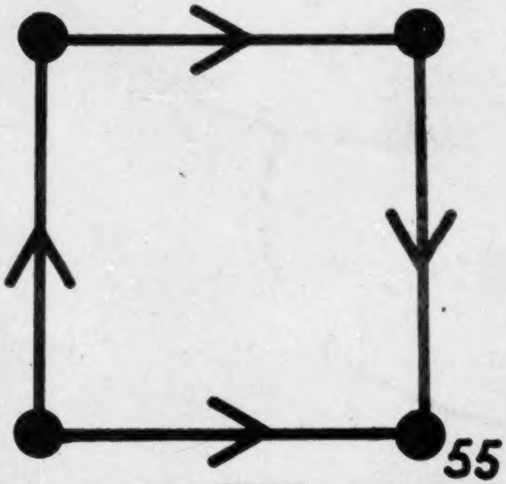
Fill in the box for each green arrow.



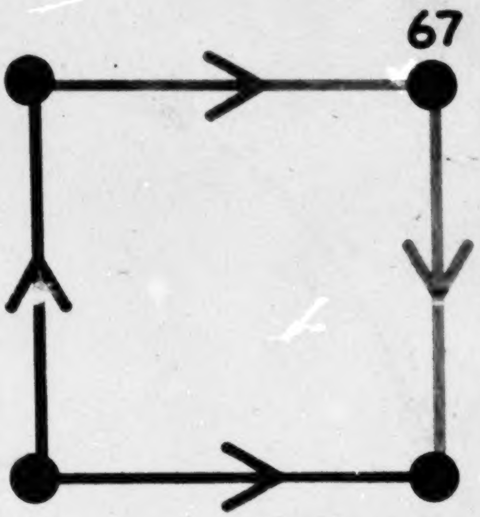
+ ☐



+ ☐



+ ☐

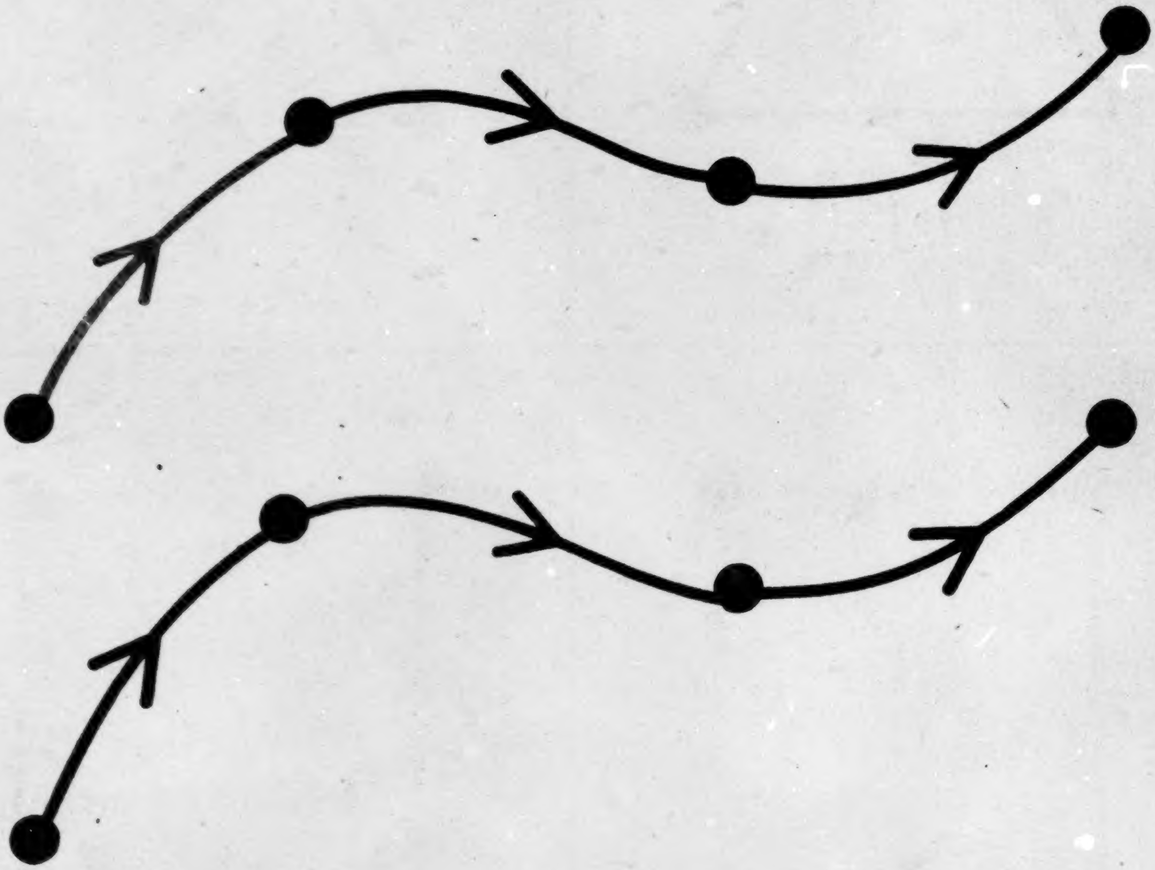


+ ☐

Put these numbers in this arrow picture.

35 44 53 70 79 106 115 158

+9 2×



Max and Mark are twins. Draw an arrow picture showing the two boys, their mother, and their father.

Draw all the possible red, blue, and gray arrows.

you are my mother
→

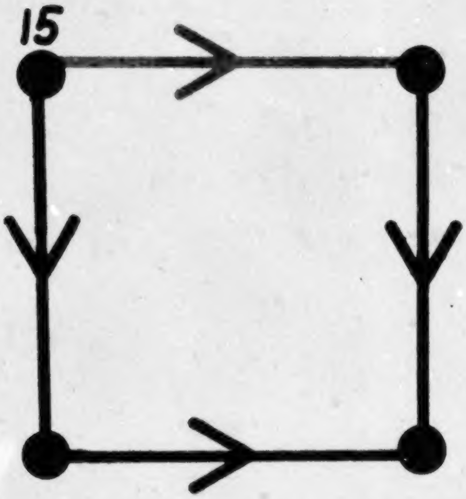
you are my father
→

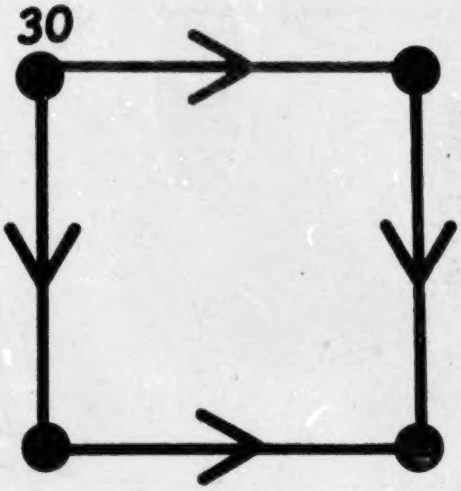
you are my brother
→

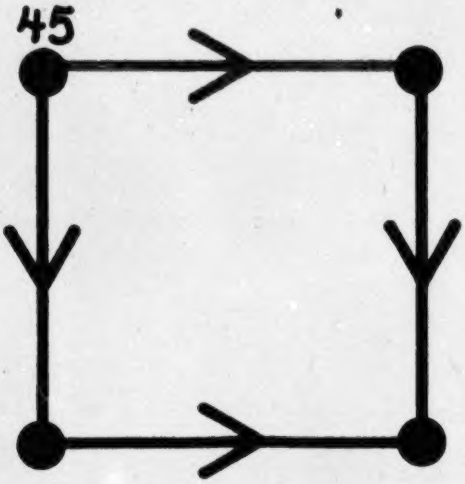
Label the dots.

Fill in the box for the green arrows.

$\frac{1}{3}\times$ $+9$ $+\square$

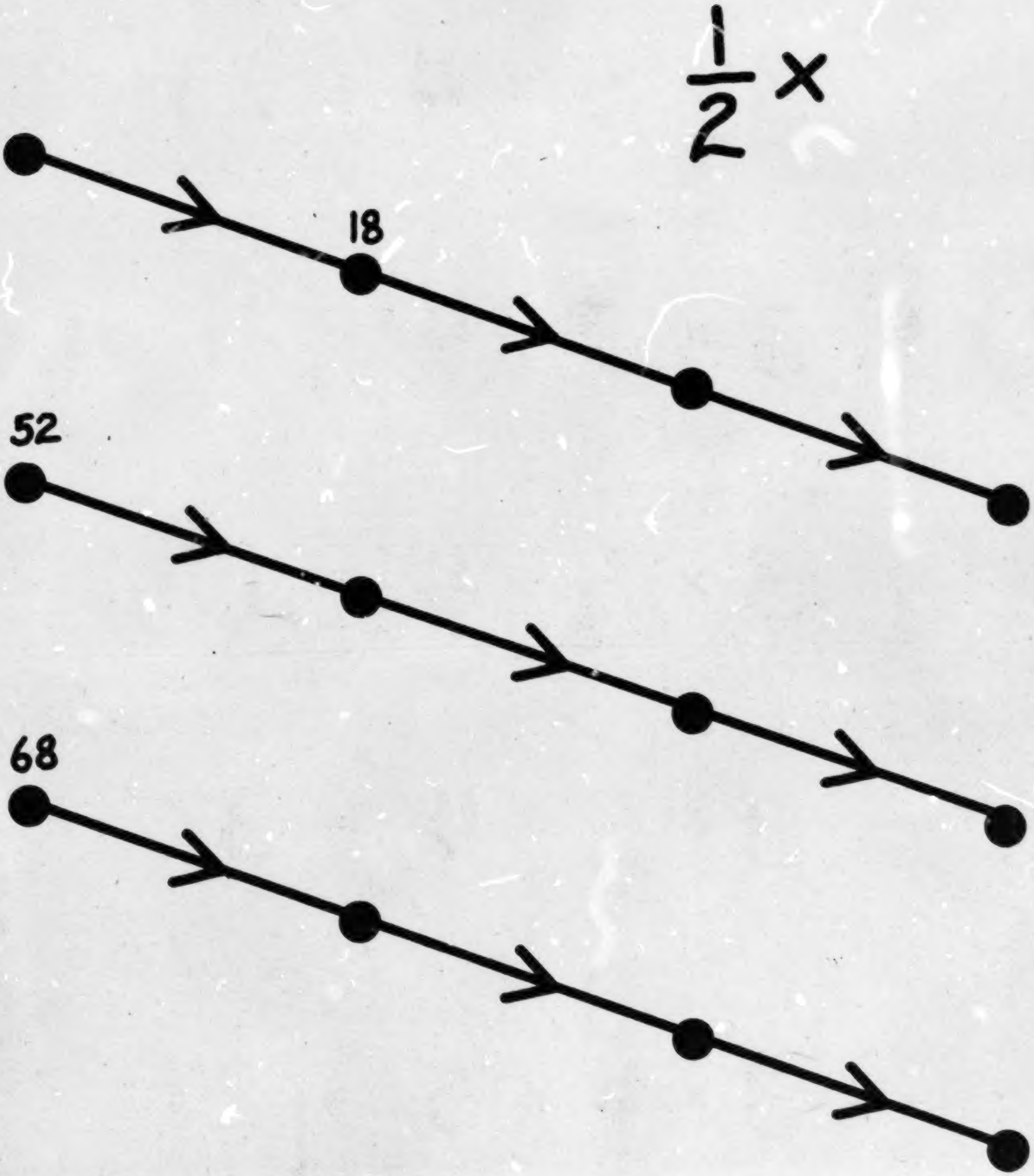






Label the dots.

Circle the smallest number in this arrow picture.



Put parentheses in these number stories to make them TRUE.

$$3 + 5 \times 4 = 23$$

$$3 \times 5 - 4 = 11$$

$$3 \times 5 + 4 = 19$$

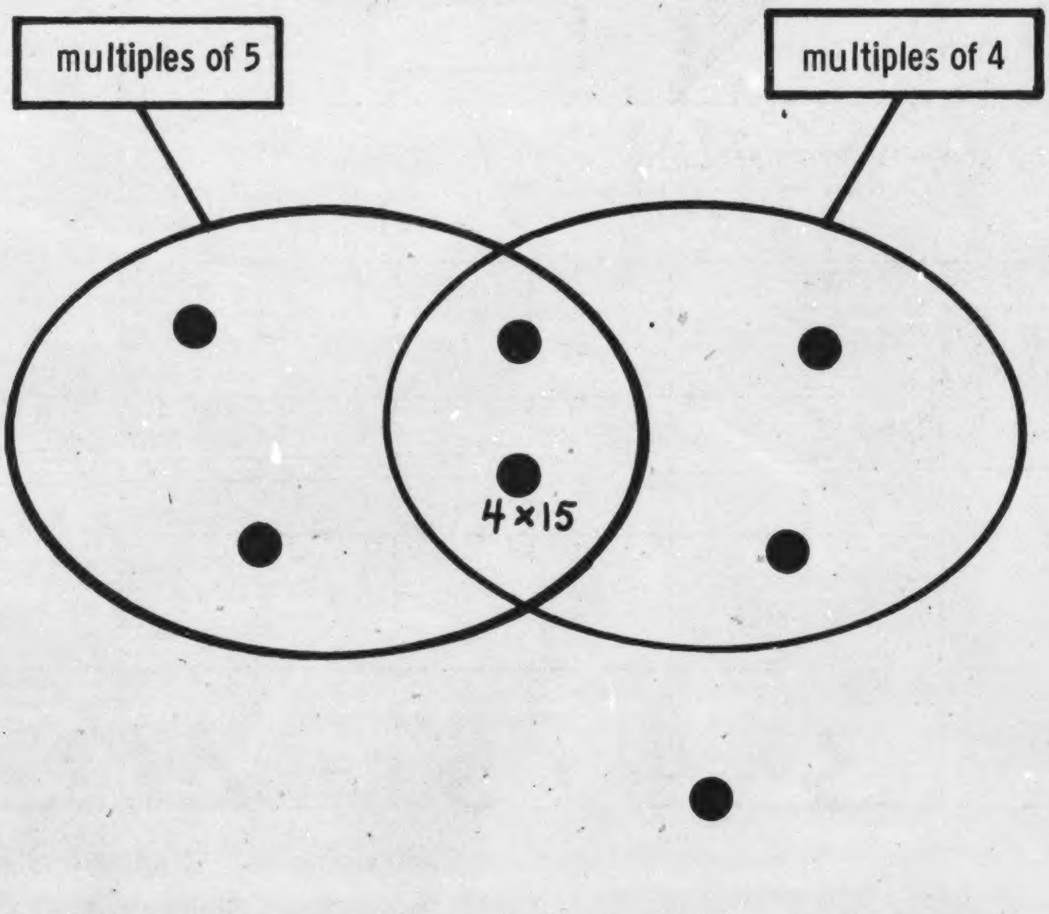
$$3 + 5 \times 4 = 32$$

$$3 \times 4 + 5 = 27$$

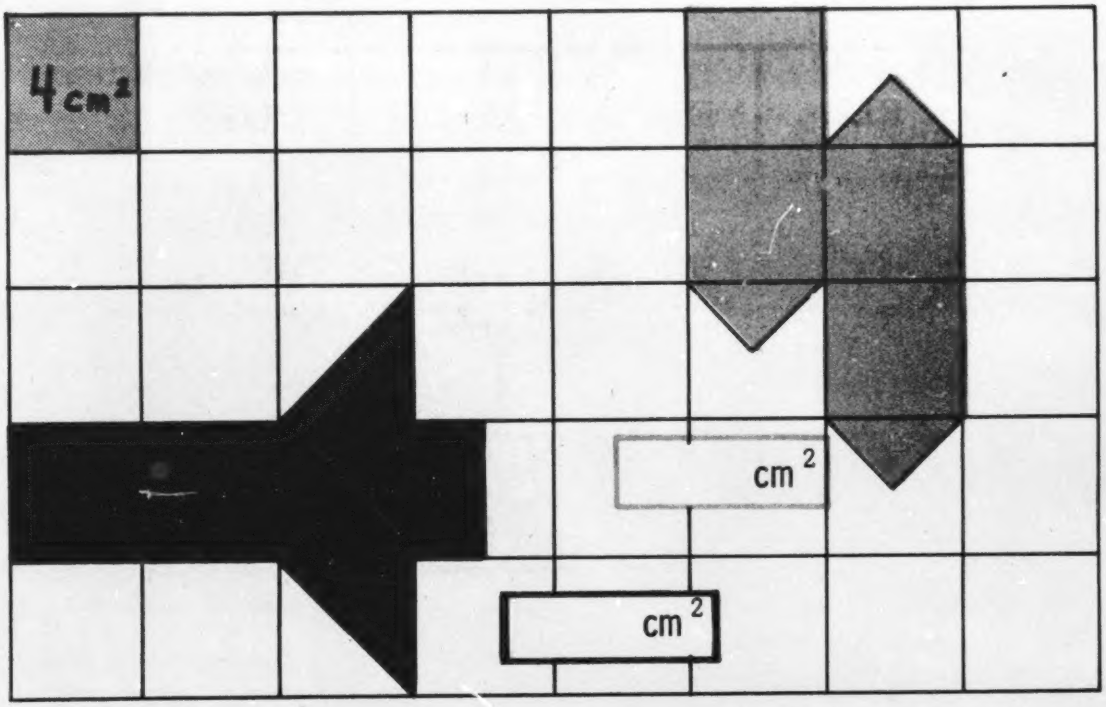
Put these numbers in the string picture.

$\widehat{15}$ 4×9 2×11

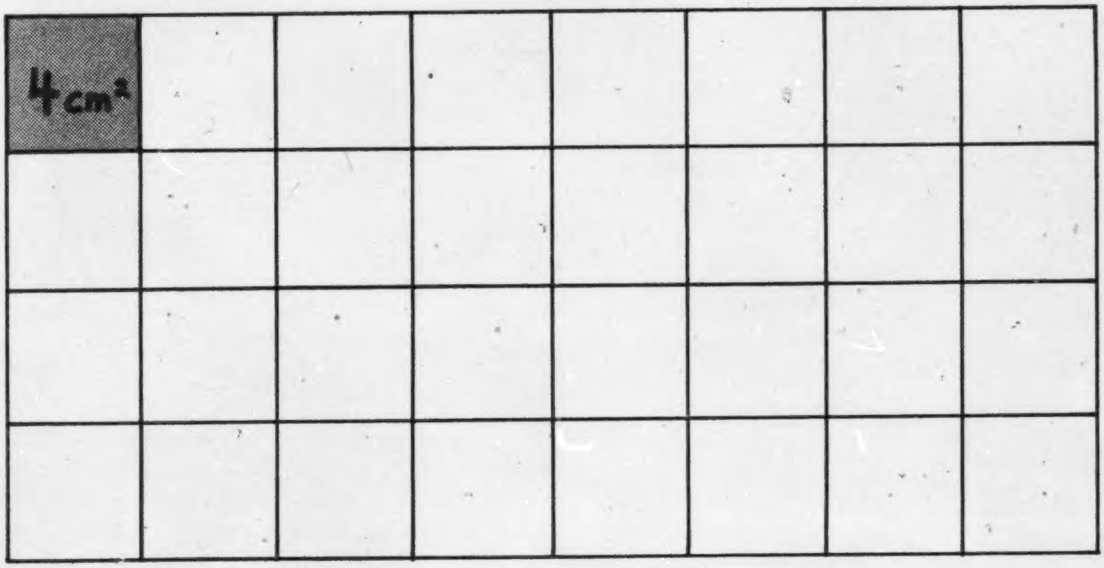
4×21 5×13 4×35


multiples of 5
multiples of 4
4×15

Find the area of each shape.


4cm²
cm²
cm²

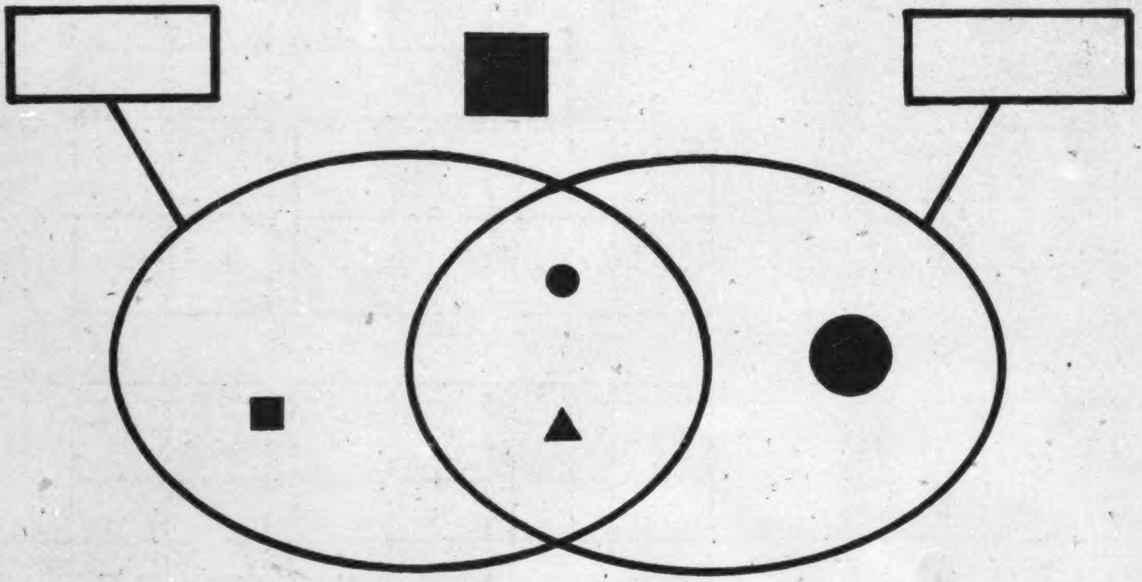
Color a shape that has area 21cm².



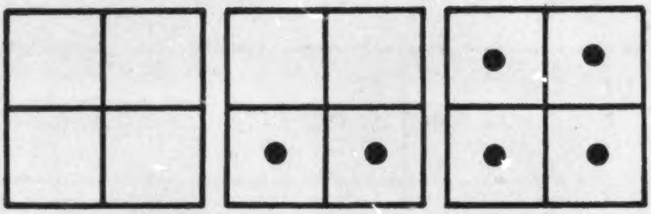
These are the possible string labels.

RED	YELLOW	GREEN	BLUE
NOT RED	NOT YELLOW	NOT GREEN	NOT BLUE
○	△	□	BIG
NOT ○	NOT △	NOT □	LITTLE

Label the strings.



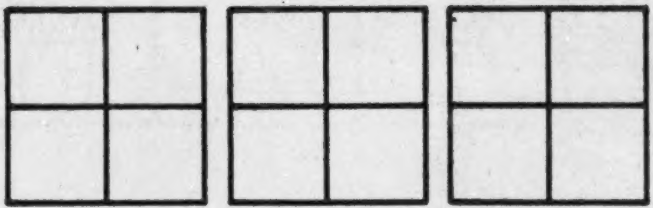
What number is on the Minicomputer?



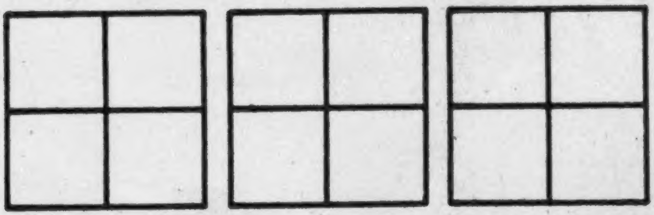
= ______

Put these numbers on the Minicomputer by moving exactly one of these checkers.

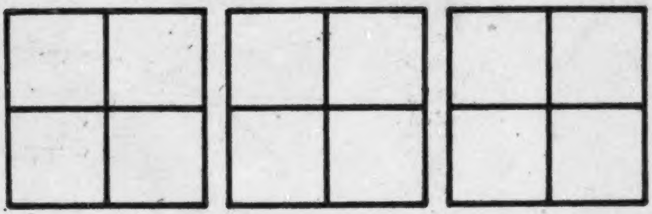
46 =



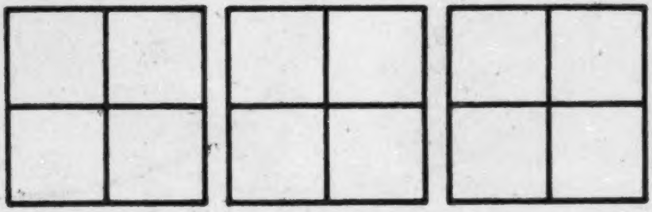
42 =

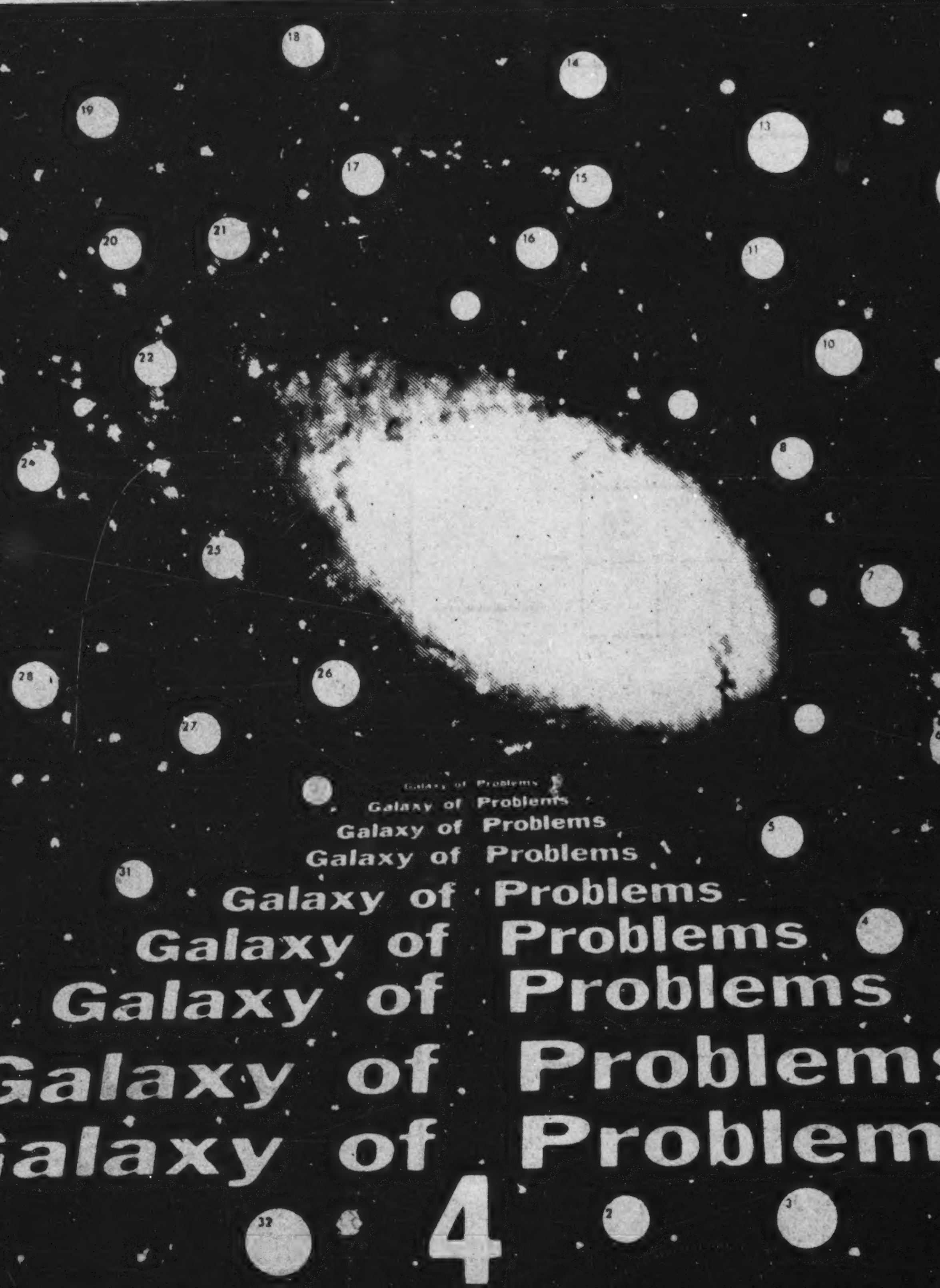


65 =

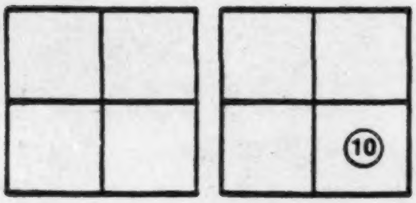


26 =

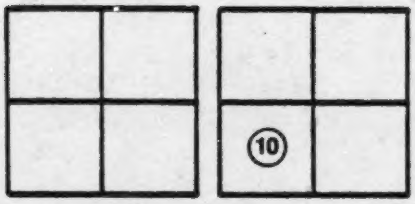



18
14
19
13
17
15
20
21
16
11
10
22
8
24
25
7
28
26
27
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problems
Galaxy of Problem
5
31
4
32
4
2
3

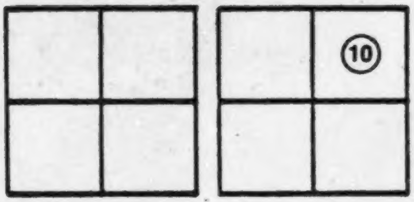
Complete.



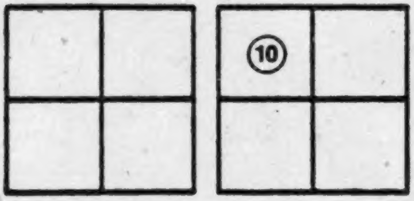
= ___



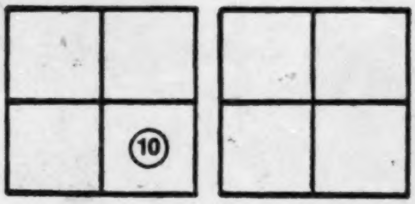
= ___



= ___



= ___



= ___

10 × 1 = ___

10 × 2 = ___

10 × 4 = ___

10 × 8 = ___

10 × 10 = ___

Build a red-blue road from 105 to 134. Use less than five arrows in your road.

105

●

+10

−1

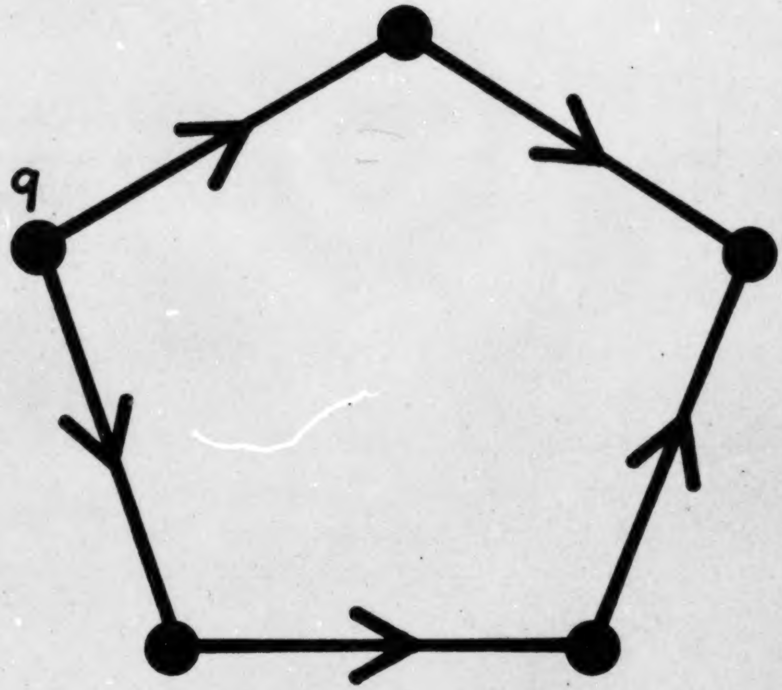
●

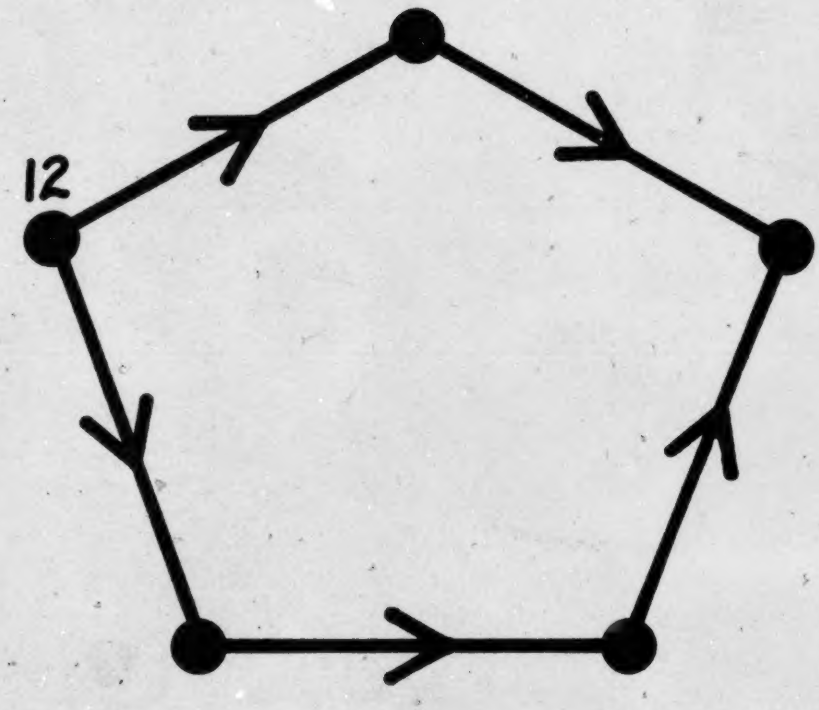
134

Label the dots.

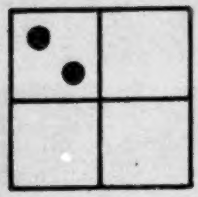
$2\times$

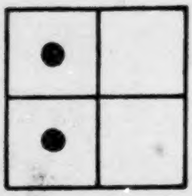
$+3$

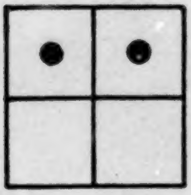


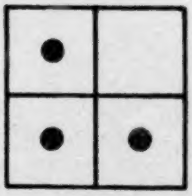


Ping is one of these numbers.

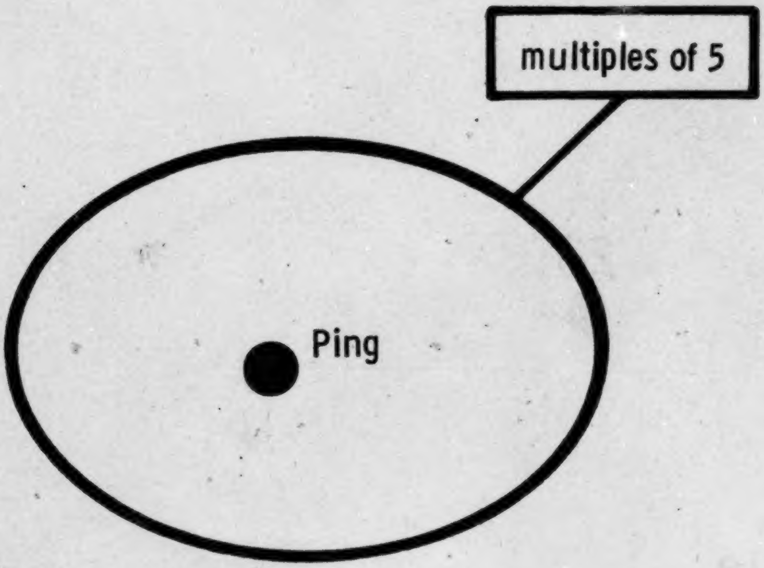

= ______


= ______


= ______


= ______

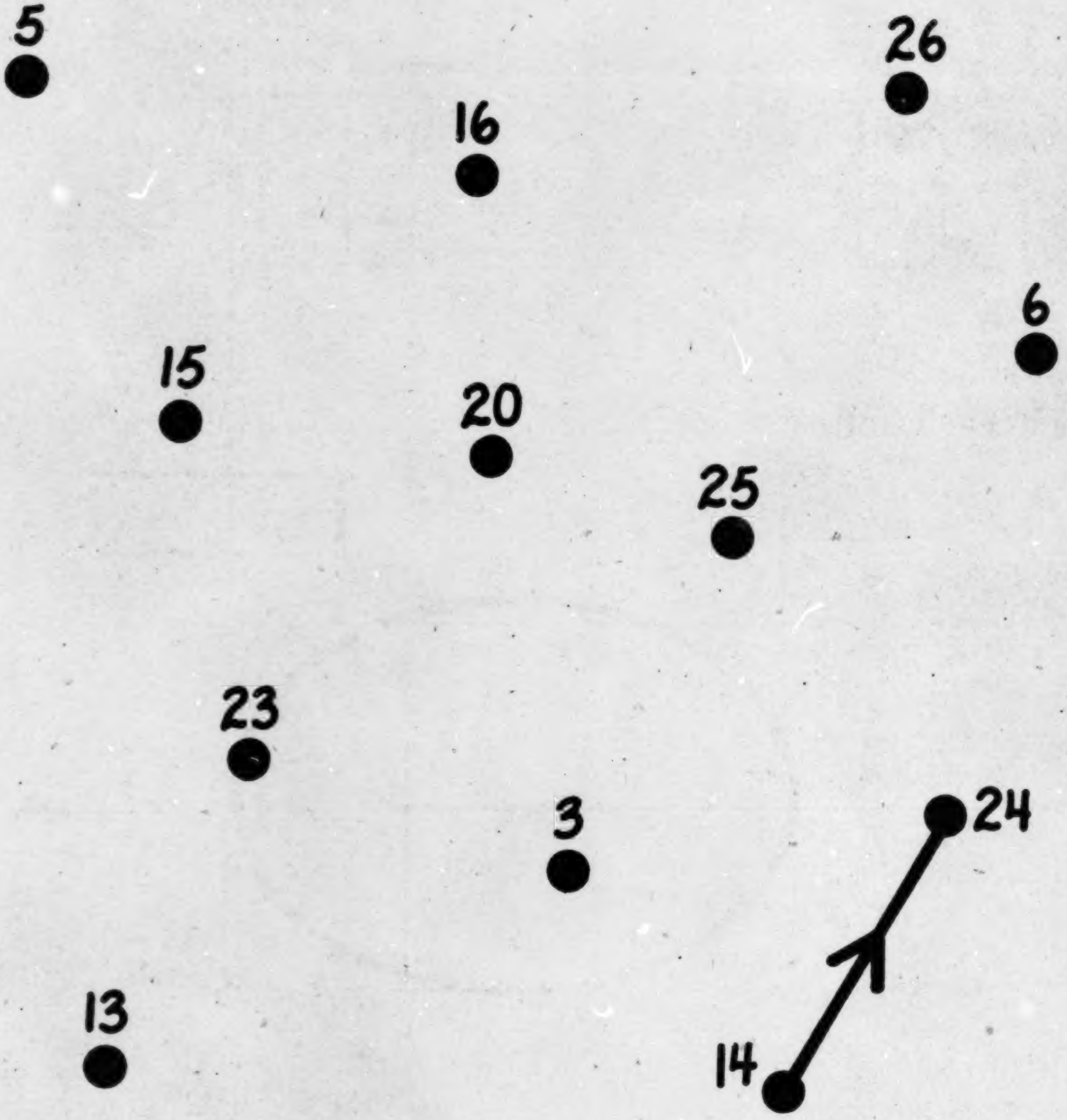
Ping is in this string picture.


multiples of 5
Ping

Who is Ping? ____________

Draw all the missing blue arrows. One is drawn for you.

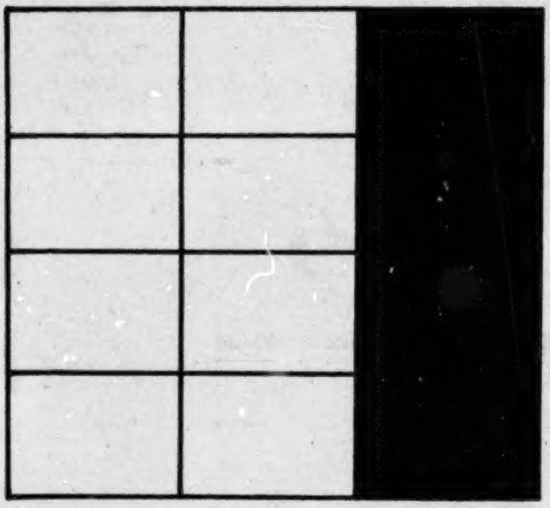
+10


5
26
16
6
15
20
25
23
3
24
13
14

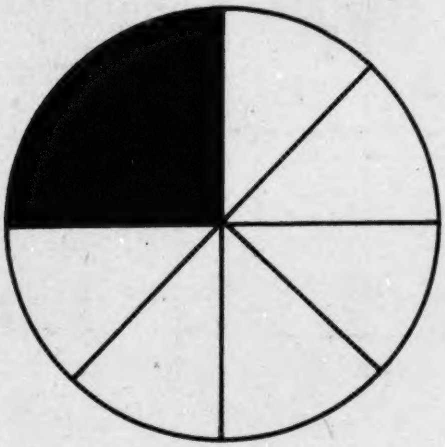
Complete this subtraction table.

−	3	5
10		
20		
30		
40		
50		

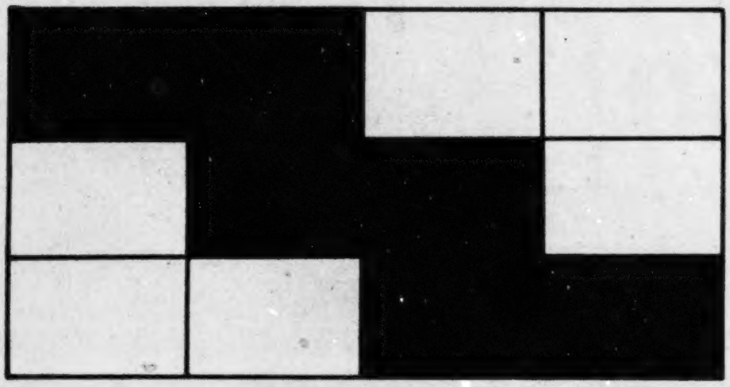
What fractional part of each shape is colored red?



______



______



______

Complete these number stories.

$2 \times (7 + 1) =$ ____

$(2 \times 7) + 1 =$ ____

$2 + (7 \times 1) =$ ____

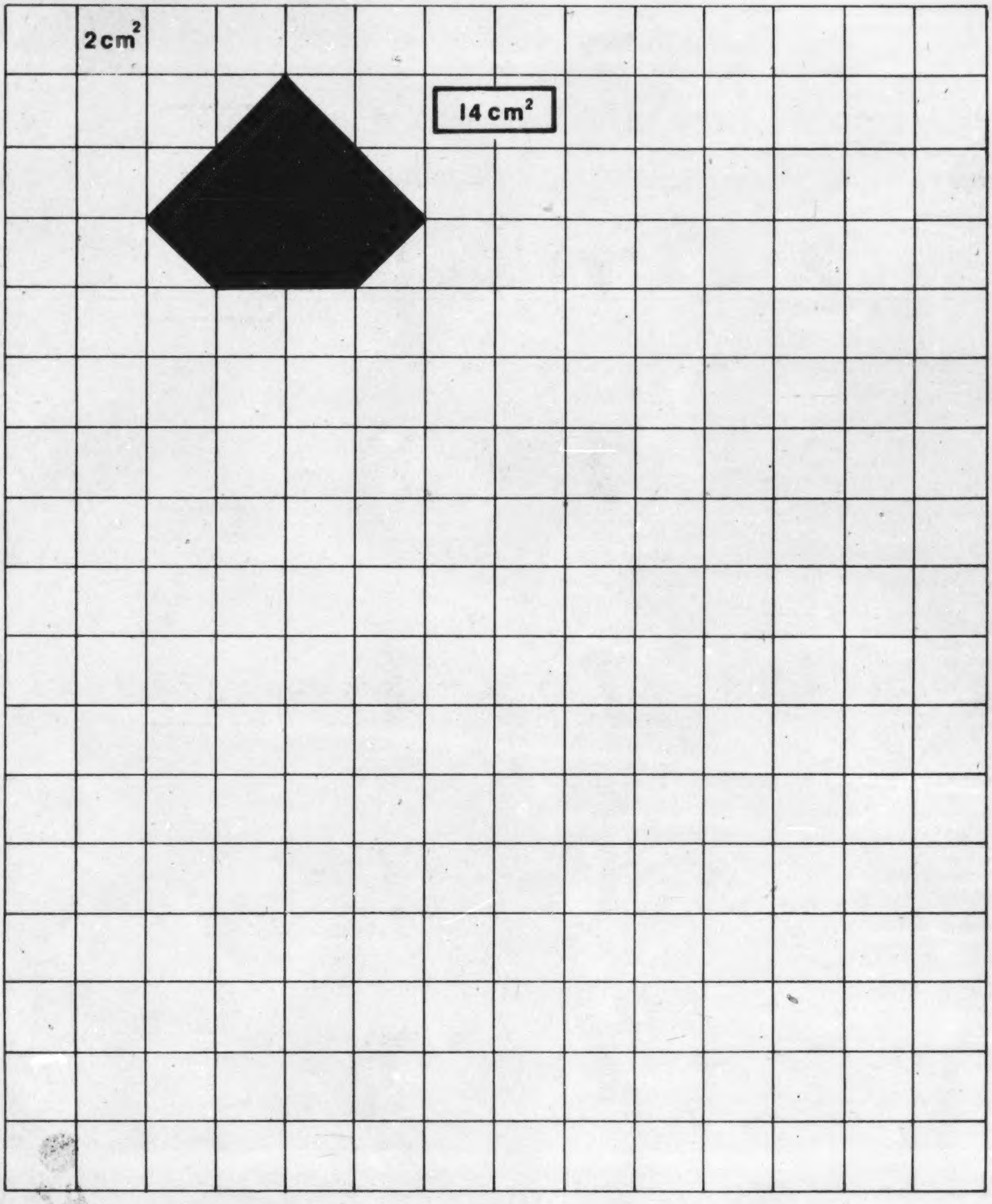
$(2 + 7) \times 1 =$ ____

$(2 \times 1) + 7 =$ ____

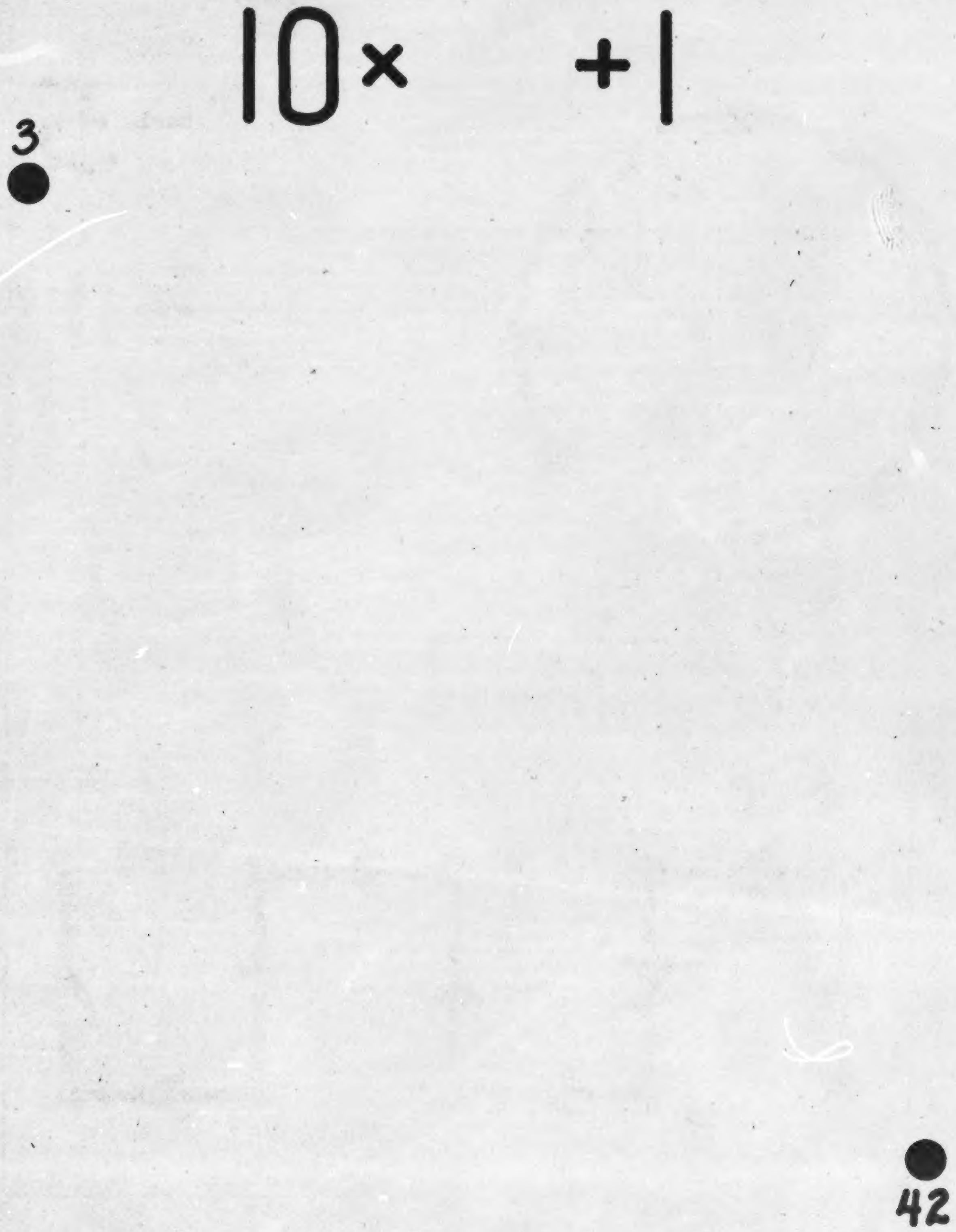
$(2 + 1) \times 7 =$ ____

The blue shape has area 14 cm^2.

Color four more shapes with area 14 cm^2.

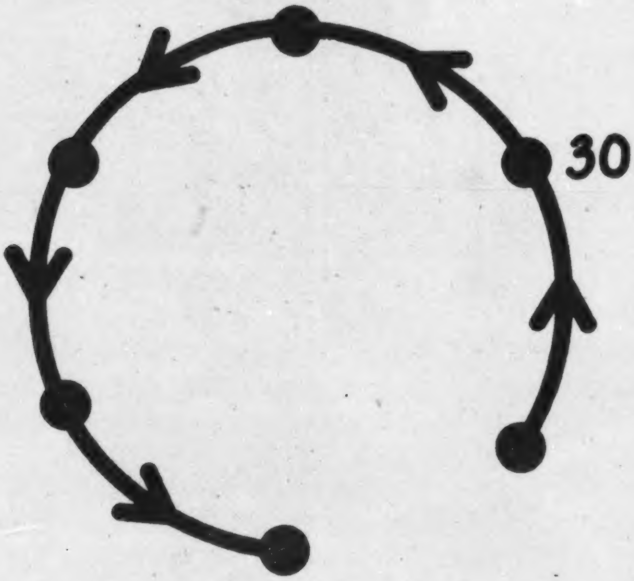


Build a red-blue road between 3 and 42. Use less than five arrows in your road.



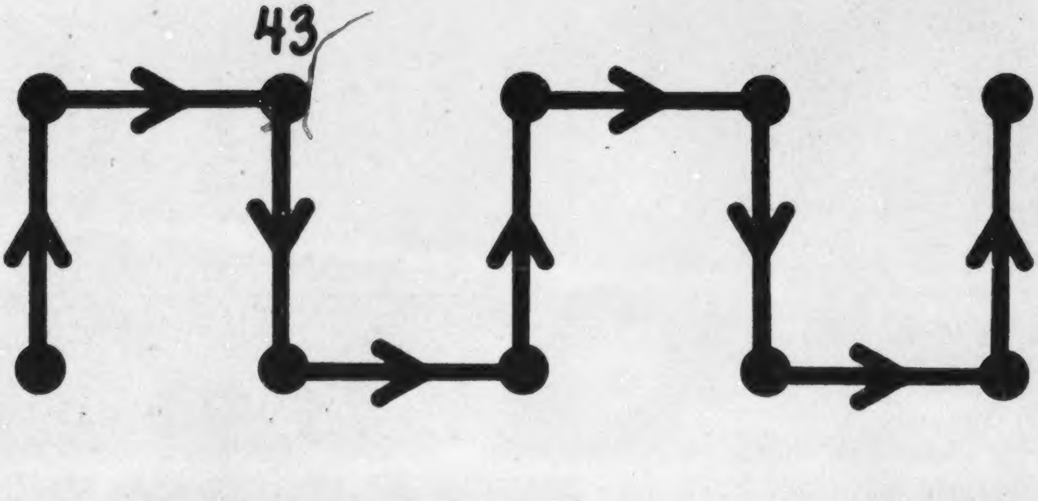
Label the dots.

Draw all the missing red arrows.



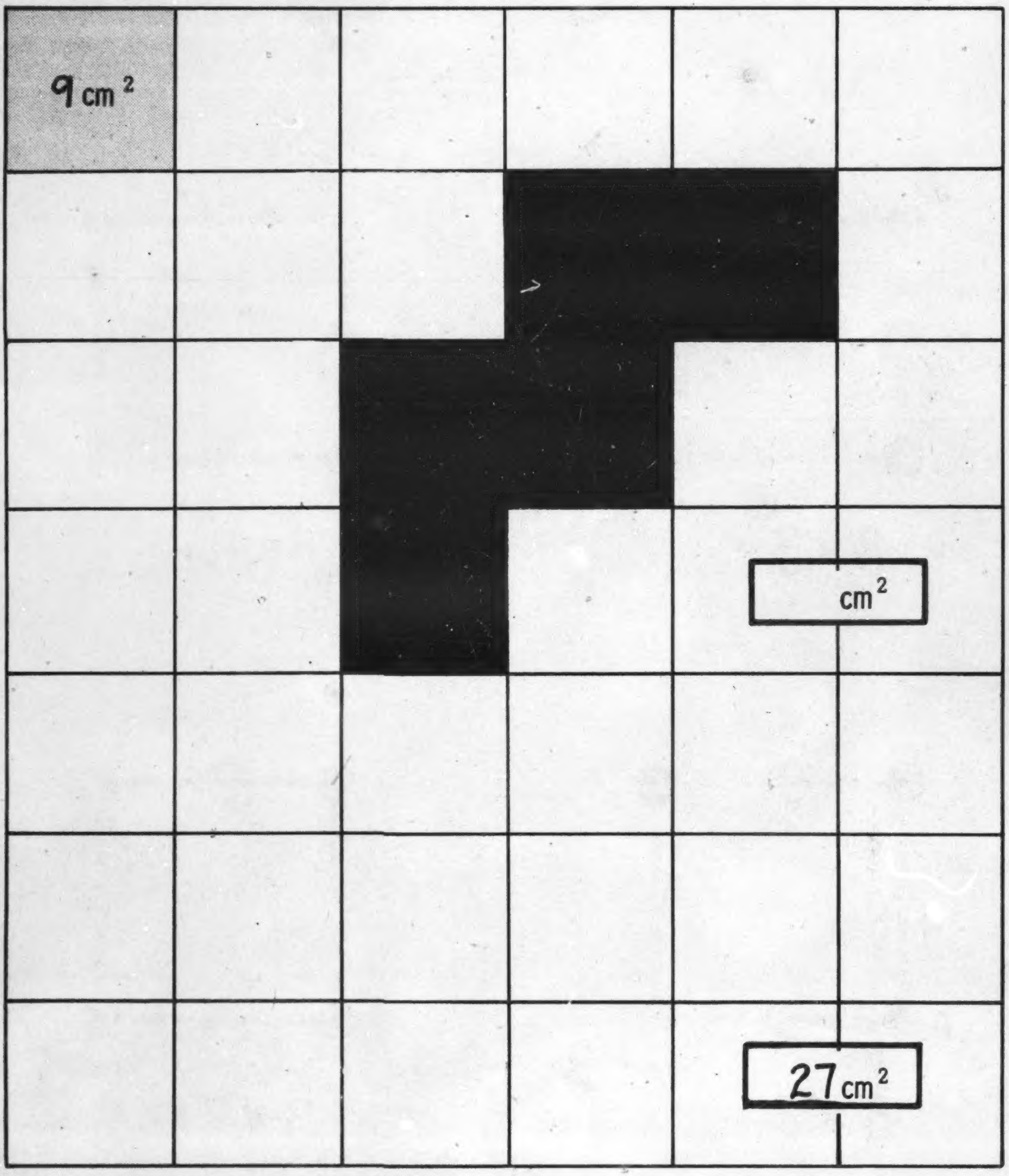
−5

−10



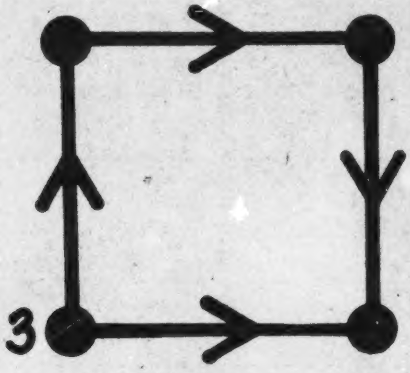
Find the area of the red shape.

Color a blue shape whose area is 27 cm ^{2}.

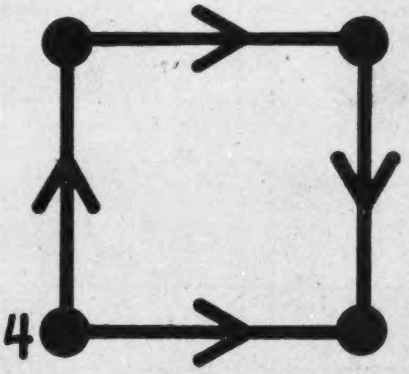

9 cm²
cm²
27 cm²

Label the dots and complete the number stories.

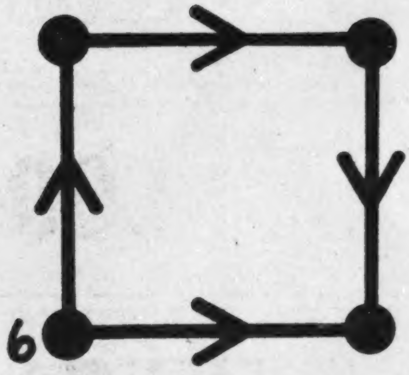
2× 8×



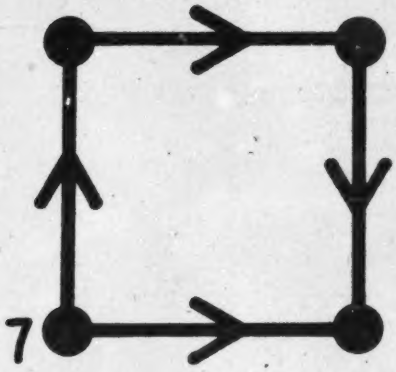
8×3= ____



8×4= ____



8×6= ____



8×7= ____

Complete this table.

Many answers are possible. One is done for you.

25¢	10¢	5¢	1¢	TOTAL AMOUNT
2	0	1	1	$0.56
				$0.16
				$0.45
				$0.68
				$1.00
				$1.31

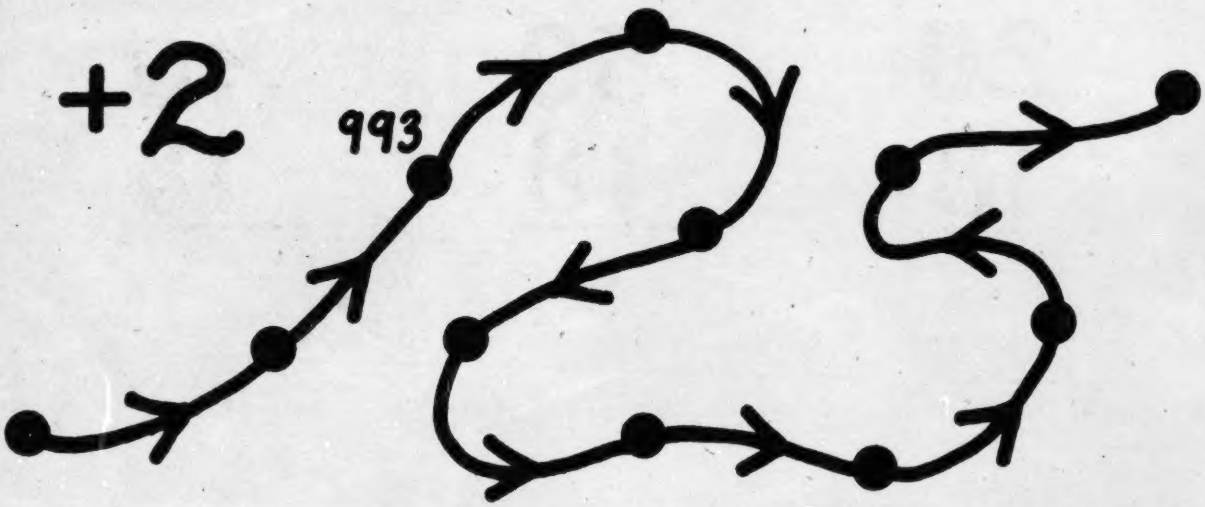
Complete this multiplication table.

×	6	9	7
2			
3			
4			

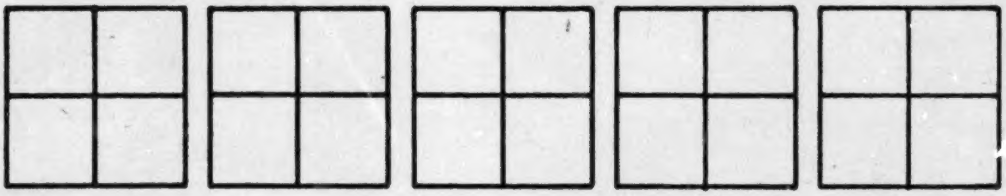
Complete this subtraction table.

−	5	7	12	20
10				
12				

Pang is in this arrow picture.



Pang can be put on this Minicomputer using exactly one regular checker and one negative checker.



Who is Pang? __________

Put Pang on the Minicomputer.

Complete.

$$\begin{array}{r} 20 \\ -18 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ -18 \\ \hline \end{array}$$

$$\begin{array}{r} 90 \\ -18 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ -15 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ -17 \\ \hline \end{array}$$

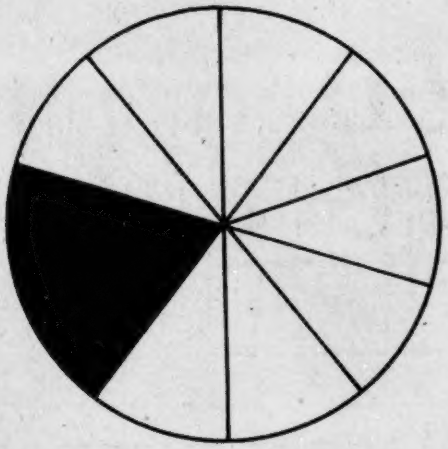
$$\begin{array}{r} 45 \\ -19 \\ \hline \end{array}$$

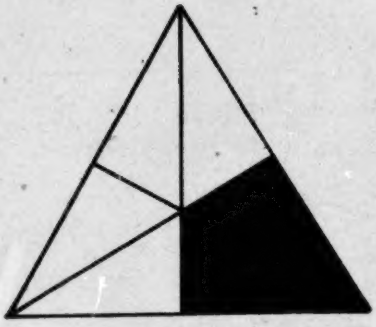
$$\begin{array}{r} 31 \\ -14 \\ \hline \end{array}$$

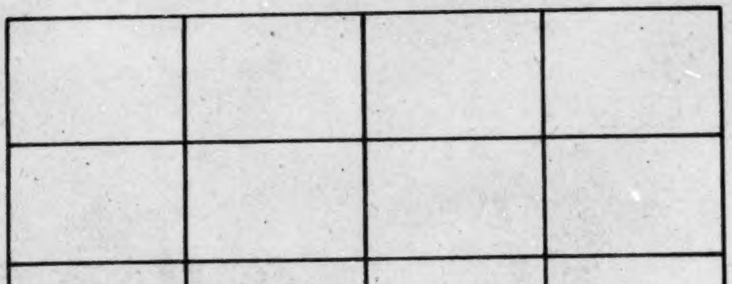
$$\begin{array}{r} 67 \\ -29 \\ \hline \end{array}$$

$$\begin{array}{r} 73 \\ -32 \\ \hline \end{array}$$

What fractional part of each shape is colored blue?



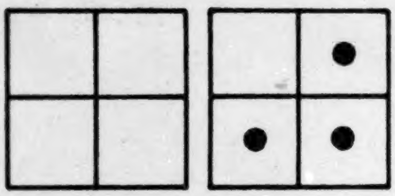




Tip is a secret number.

First clue

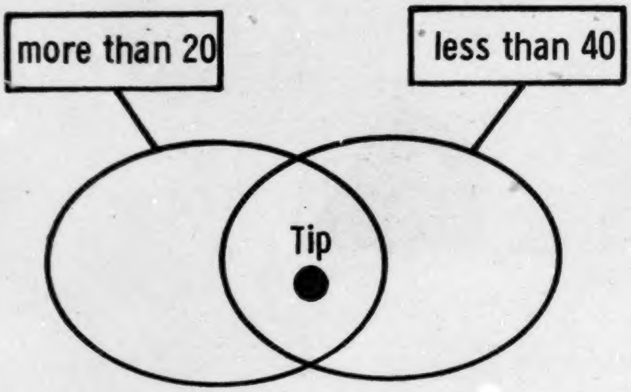
Tip can be put on this Minicomputer by moving one of these checkers to the tens' board.



Which numbers could Tip be? _____, _____, _____, _____, _____,

_____, _____, _____, _____, _____, _____, or _____.

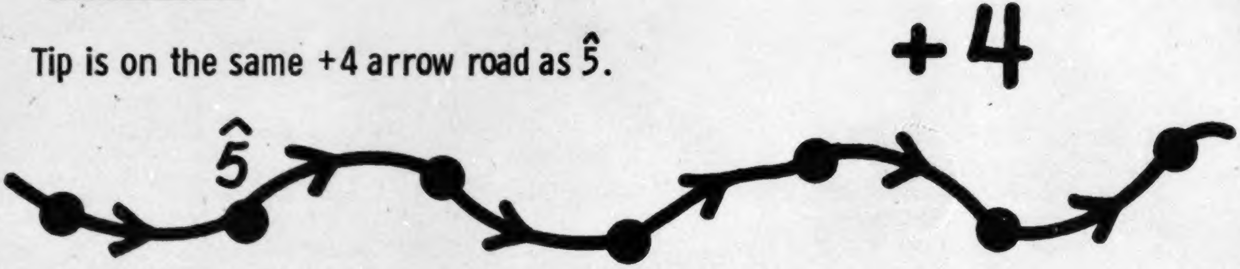
Second clue


more than 20
less than 40
Tip

Tip could be _____, _____, or _____.

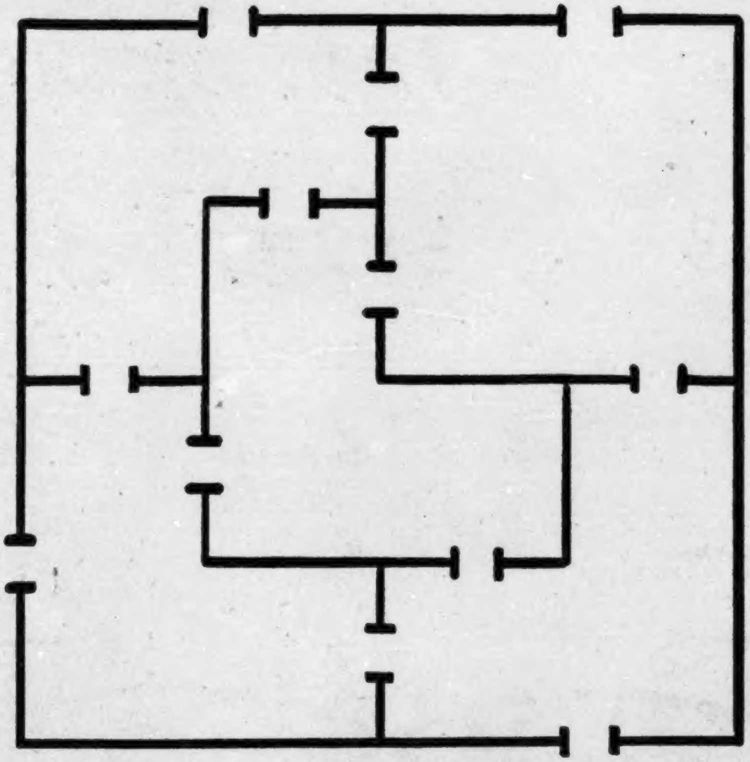
Third clue

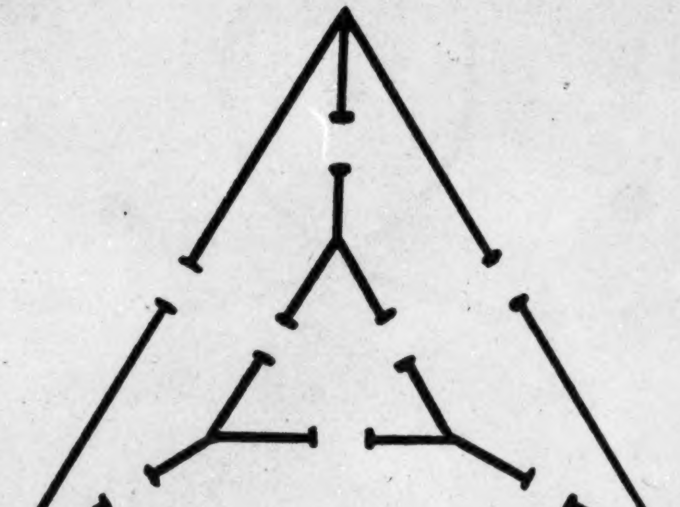
Tip is on the same +4 arrow road as $\hat{5}$.



Who is Tip? __________

Find walks through these houses using all the doors, but do not use a door more than once.

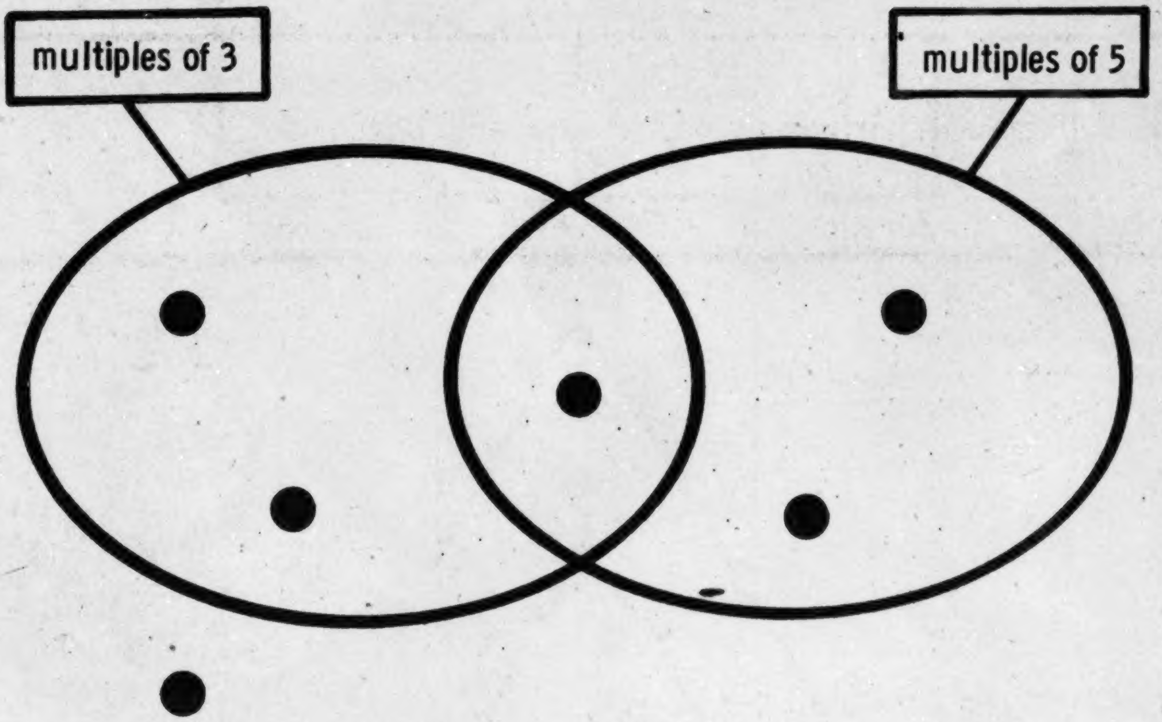




Put these numbers in the string picture.

3 × 7 7 × 11 995

5 × 13 3 × 25 33 + 9


multiples of 3
multiples of 5

Share 72 candies fairly among Nick, Cathy, and John.

For Nick	For Cathy	For John

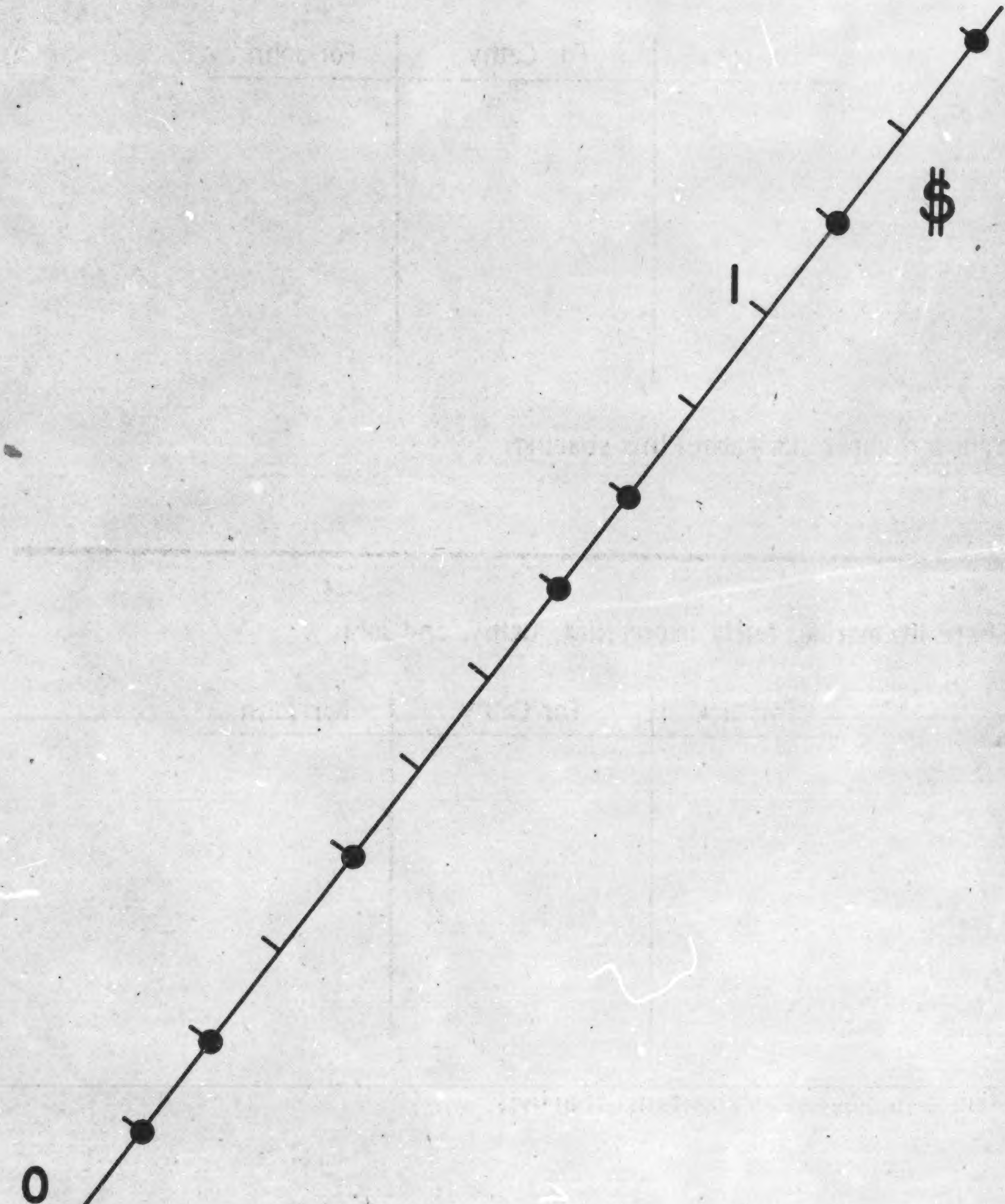
Write a number story about this sharing.

Share 105 marbles fairly among Nick, Cathy, and John.

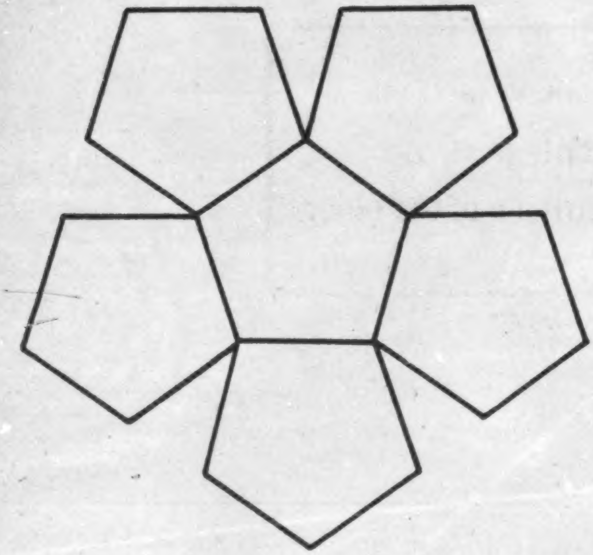
For Nick	For Cathy	For John

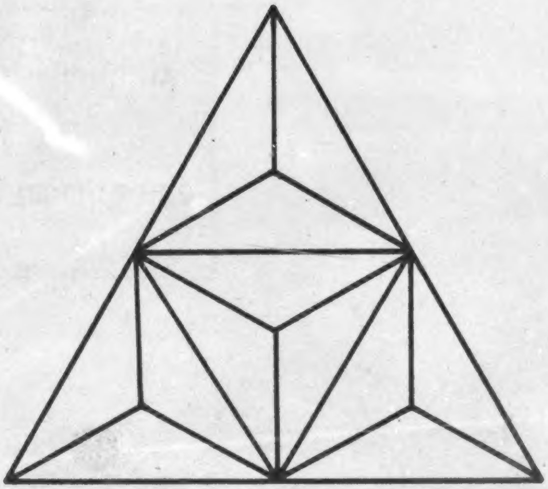
Write a number story about this sharing.

Label the dots on this money number line.

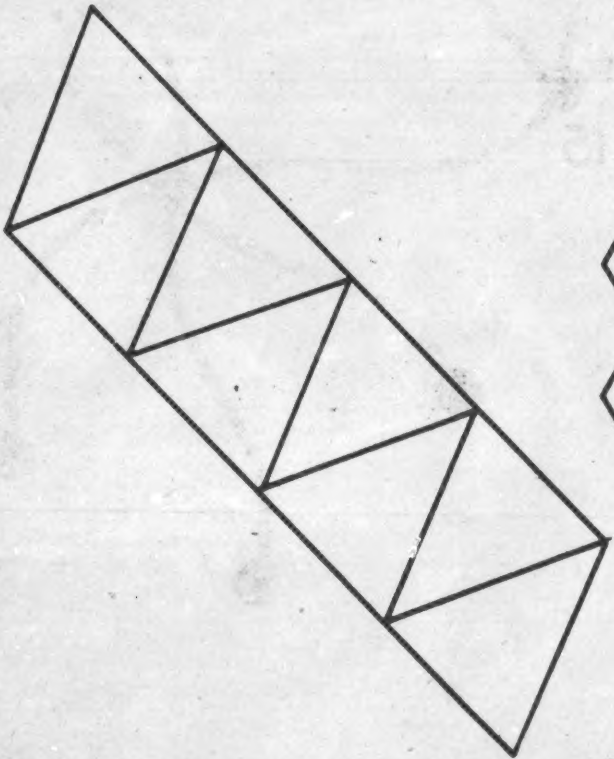


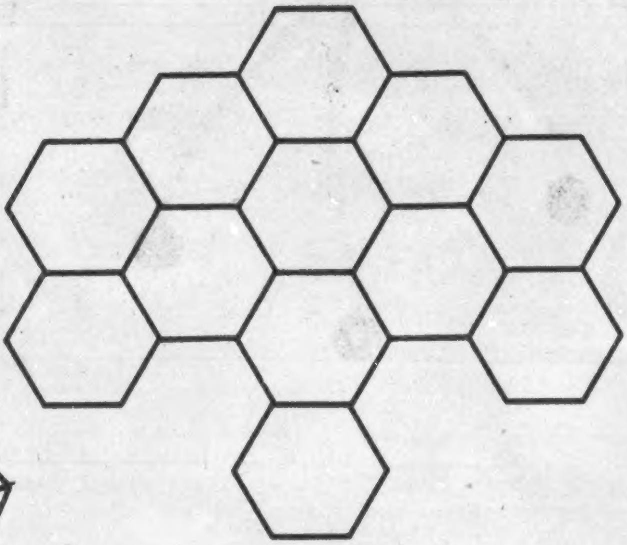
Color one-third of each shape red.





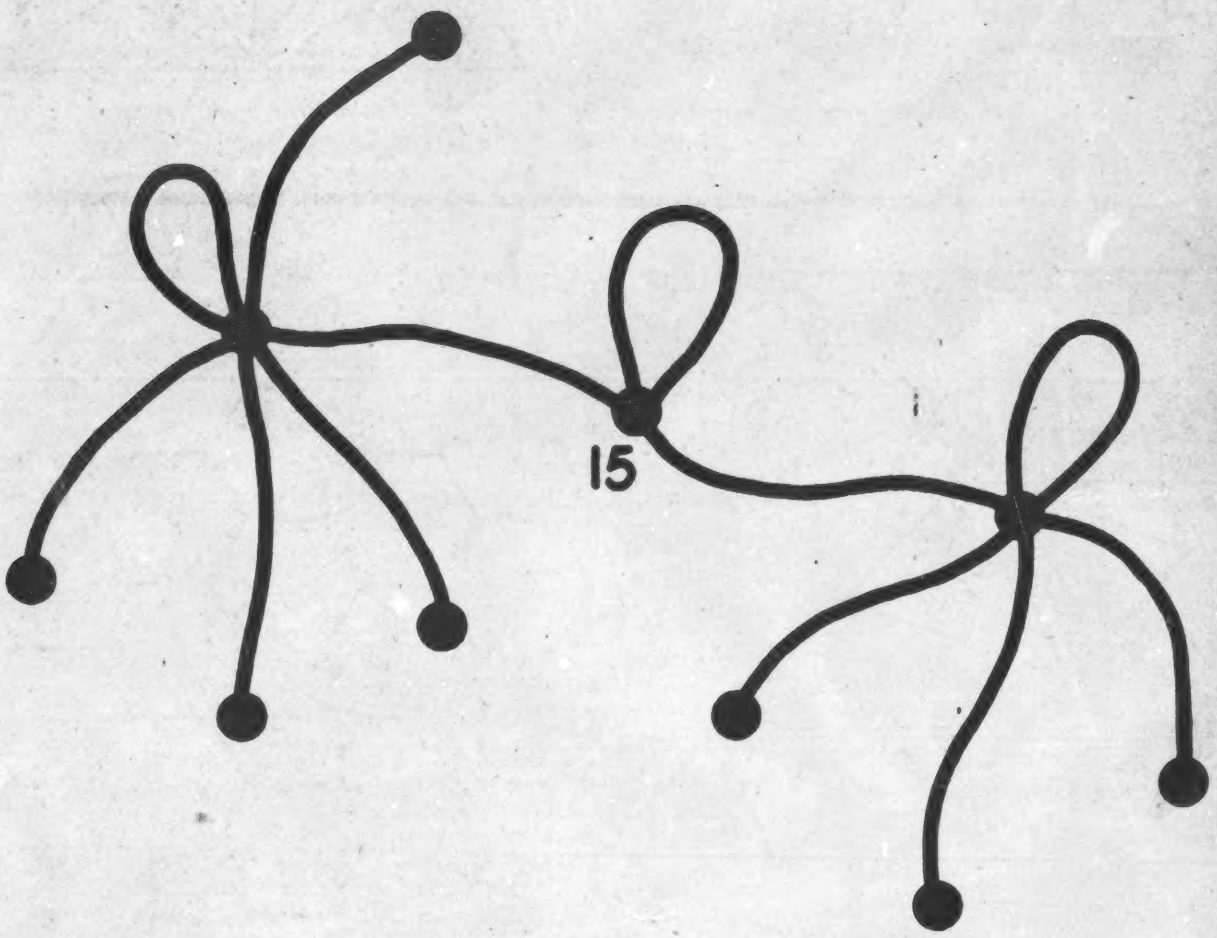
Color one-fourth of each shape blue.





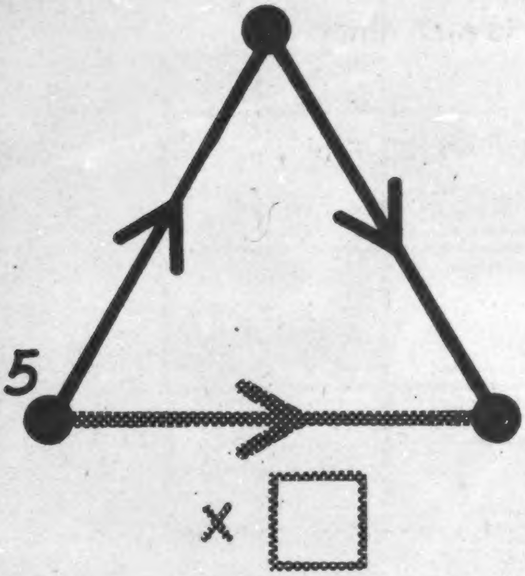
Label the dots. Many solutions are possible.

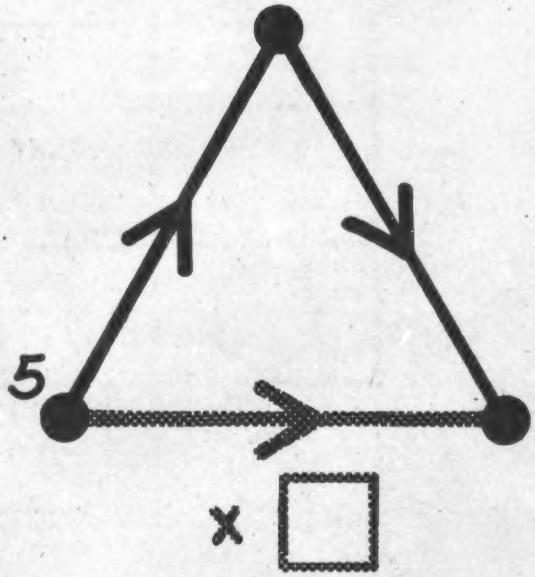
Two numbers may talk to each other
if and only if
one number is a multiple of the other.

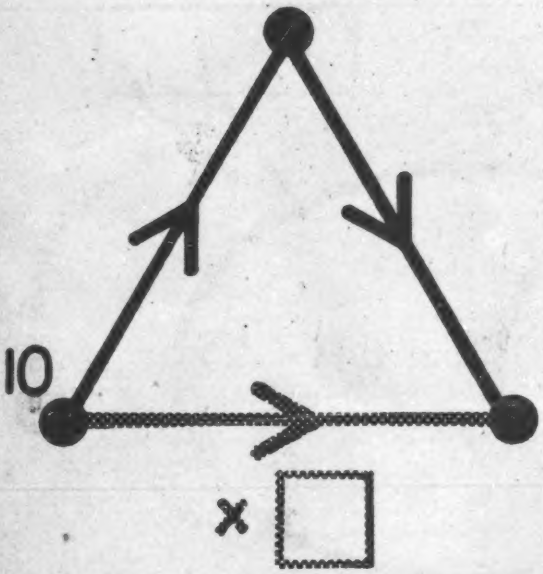


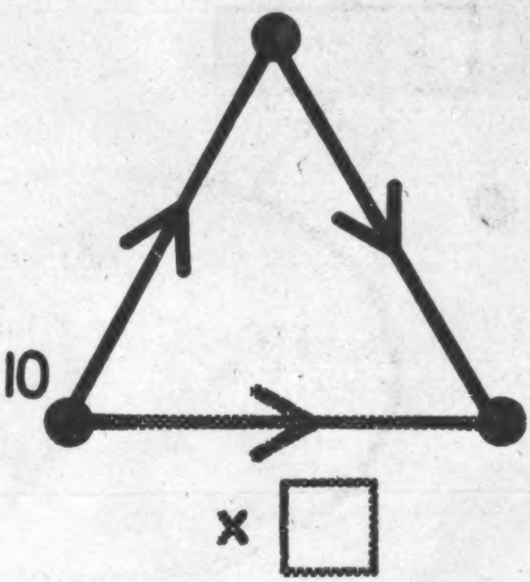
×2 ×3

Label the dots. Fill in the box for each gray arrow.





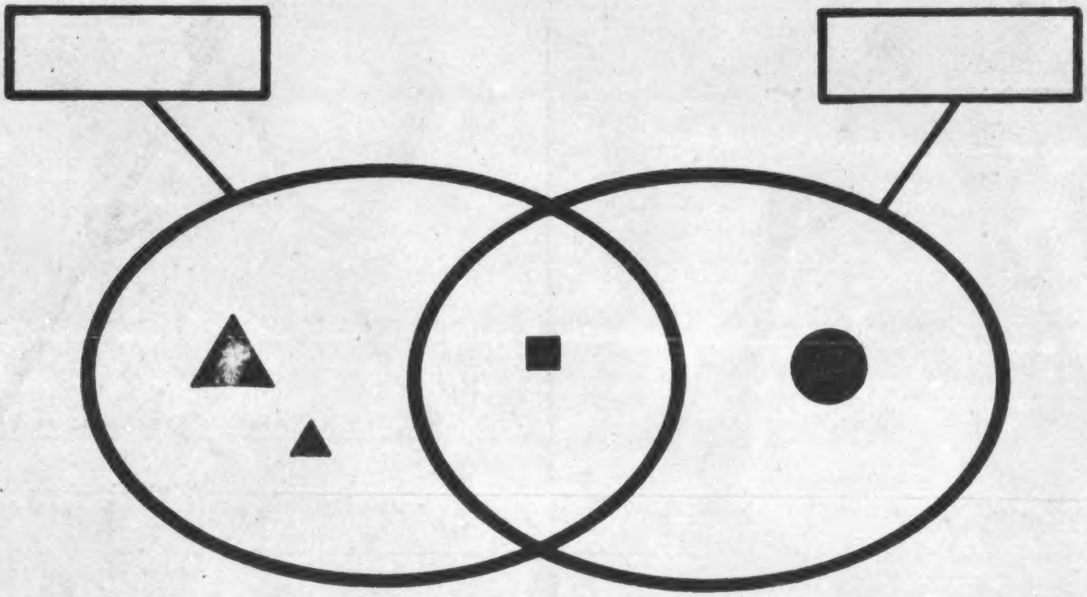


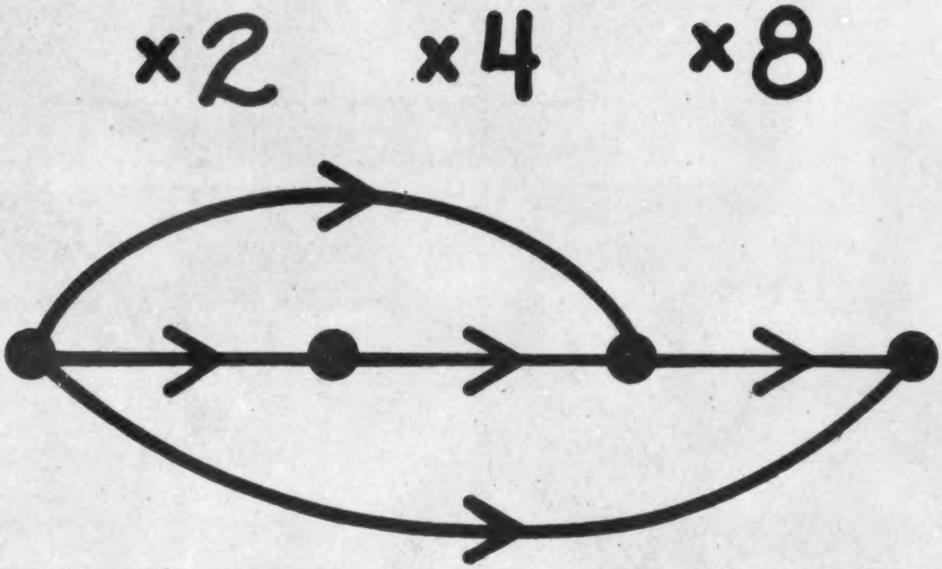


These are the possible string labels.

RED	YELLOW	GREEN	BLUE
NOT RED	NOT YELLOW	NOT GREEN	NOT BLUE
○	△	□	BIG
NOT ○	NOT △	NOT □	LITTLE

Label the strings.



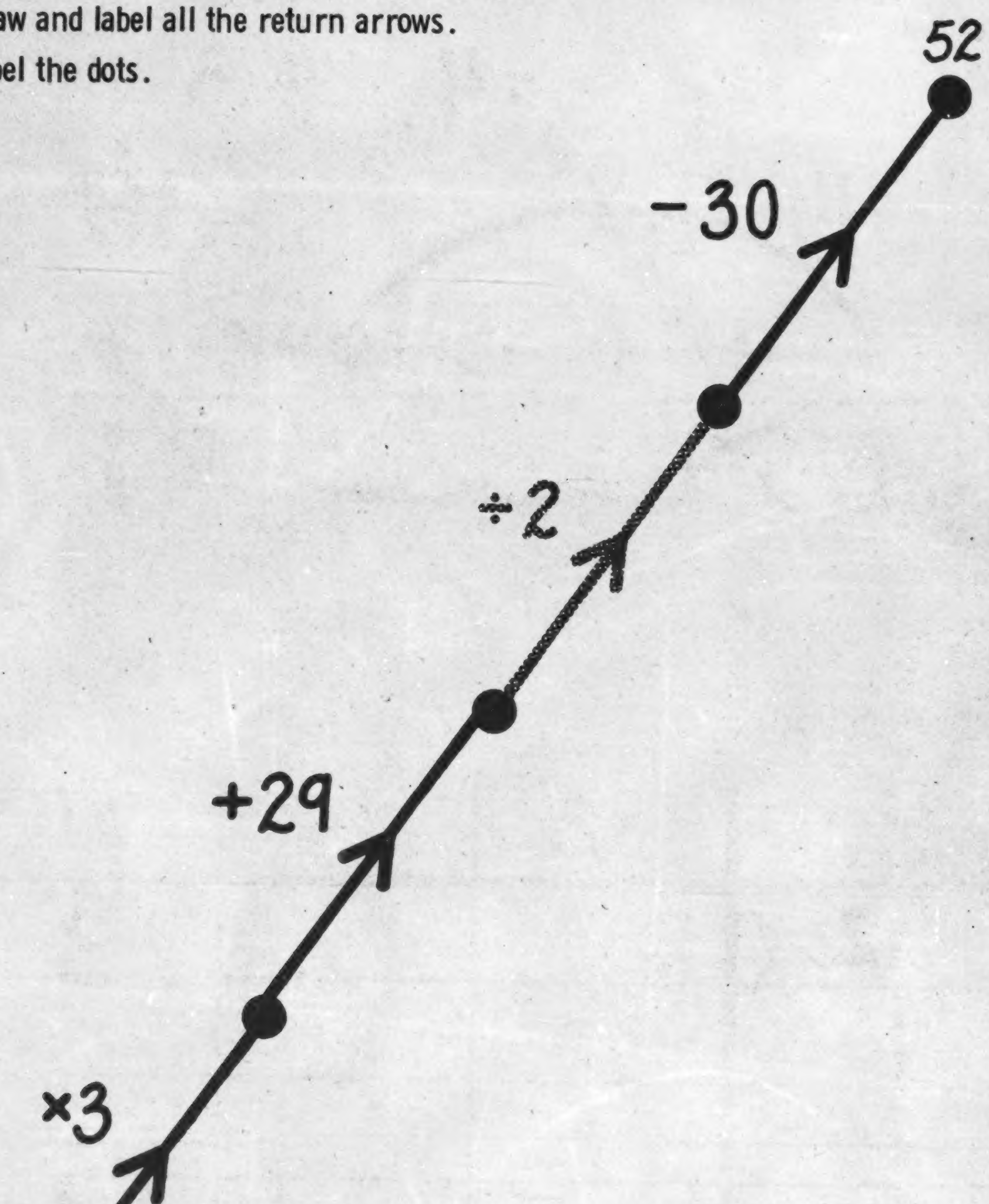


Complete this table.

Starting Number	×2	×4	×8
12			
16			
25			
50			
49			

Draw and label all the return arrows.

Label the dots.



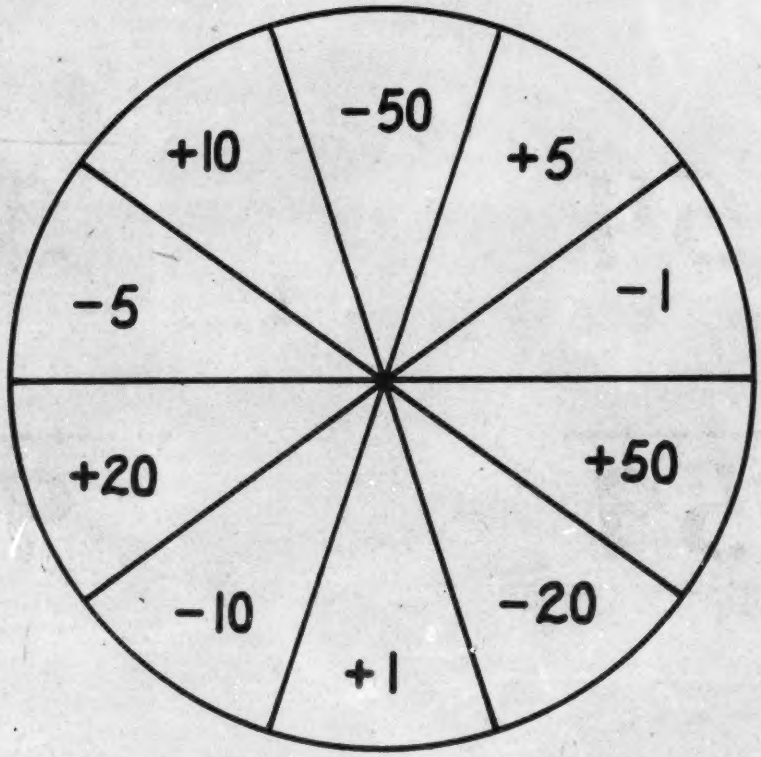
Complete.

$$\begin{array}{r} 154 \\ +\qquad \\ \hline 659 \end{array}$$

$$\begin{array}{r} 39 \\ +\qquad \\ \hline 91 \end{array}$$

$$\begin{array}{r} 408 \\ +\qquad \\ \hline 765 \end{array}$$

$$\begin{array}{r} 273 \\ +\qquad \\ \hline 400 \end{array}$$


-50
+10
+5
-5
-1
+20
+50
-10
-20
+1

Some of these scores are possible after four spins.

Show how you could get them.

Some of these scores are not possible after four spins. Cross them out.

75
76
77

100
101
102